Queen's University

PRINCIPAL'S REPORT

7th May, 1924.

The Board of Trustees,
Queen's University.

Gentlemen:—

I beg to submit my report for the year 1923-24, the eighty-third session of the University.

The following is the registration for the session 1923-24 as compared with the previous session:

	1922-23		1923-24	
ARTS—				
Intra-mural—First Registration	183		171	
Previously Registered	423		437	
		606		608
Summer School		364		423
Extra-mural—First Registration	240		203	
Previously Registered	513		573	
		753		776
Summer (not attending Summer School)		207		273
SCIENCE—				
First Registration	60		71	
Previously Registered	238		169	
		298		240
MEDICINE—				
First Registration	42		43	
Previously Registered	218		231	
		260		274
EXTENSION WORK—				
Banking		316		241
Chartered Accountancy		262		246
		3066		3081
Less registered in two Faculties		24		22
		3042		3059

This registration is the largest on record, but the increase is slight nor is it likely that there will be any great change in

the attendance in the immediate future. The numbers in Medicine are limited by the Faculty to fifty in a year. The Science entrance requirements are high enough to confine the numbers to those who are able to take advantage of the teaching, and the enforcement of the regulations with regard to the Matriculation in Arts prevents the University from being flooded. The Principal believes that a wise policy will not seek to extend the work of the University in too many directions. The University should do the thing that it can do and avoid the danger of scattering its resources on programmes of work which it has not the means adequately to carry through.

The Chancellor

Since the resignation of Mr. E. W. Beatty a year ago the University has been without a Chancellor. The election of the Chancellor lies with the University Council, and last spring a committee of the Council sent requests to the graduate associations asking for suggestions for this office. There was a general agreement that, if Sir Robert Borden could be induced to accept office, he would with his long and splendid record in public life be of great service to the University. He was an honorary graduate of Queen's and was known to be deeply interested in its affairs. Sir Robert consented to let his name go forward provided he did not have to stand a contested election. He was unanimously elected by the University Council and he will be formally installed as Chancellor at the Autumn Convocation. This is a most happy appointment and Sir Robert, now free of the demands of public and political life, may be counted on to give Queen's the advantage of his presence and advice.

The Rector

Many years ago at the suggestion of Principal Grant, the constitution of the University was altered so as to provide for a Rector to represent the undergraduates upon the Trustee Board. The Rector is thus an important man in that he is not co-opted by the trustees or elected by any process of ballot. He represents the suffrages of that singularly discriminating

and plain-spoken community, the students of the University. Mr. W. H. Coverdale, known to the commercial world by his eminence as an engineer and as the builder up again of tottering concerns, to the undergraduates as a keen student of affairs and a singularly interesting speaker, and to Kingston as the son of his father, the architect of those beautiful civic buildings, the City Hall and the Court House, has been chosen for this honourable office.

THE UNIVERSITY PROBLEMS.

The Special Position of Queen's

Queen's University has the great advantage from the academic point of view of being situated in a small city where the interest of the student is centred upon the institution to which he belongs. Whatever he may be doing he is living "Queen's". It may be argued with reason that this fact does not prevent a great deal of time being spent and possibly wasted on activities that have nothing to do with academic standing. Unquestionably, in every seat of learning, where students are given such liberty as university life requires, time will be wasted if the attainment of academic position be the only thing desired. But at some time or other young people have to find their feet, even although the multiplicity of interests in the modern University may make a parent, remembering a stricter interpretation of learning, wonder how his boy under these modern conditions will acquire a technical training. The situation, however, is apt to be misrepresented by the few who may make a stir in university life out of proportion to their place among their fellows. What a student does in Queen's is known to the whole community. If he gets into trouble, everyone hears about it, and, if he wastes his time, he does so in the companionship of others equally idle, and the thing becomes a matter of comment. The checking up of the student's record at mid-term has done much to keep the heedless student up to the mark. The real students, however, who in the University sense have no history, are by far the larger proportion. The fact shows itself in the re-

sults of those examinations, whether in Science, Medicine, or in the liberal Arts, where Queen's men and women contest the field with students from the whole Dominion. Within the University itself this constant contact of Faculty with Faculty means a genuine college life. Whether the main interests of the student be academic in the strict sense, whether his reading be on lines apart from his special subject, whether he be largely concerned with college activities and athletics, he is at all events thinking "Queen's" all the time. The result is that, when he passes out into the world, he has an affection for the place that even increases with the years. Wherever Queen's graduates meet there is this bond, and whenever in Canada one meets a Queen's man, it may be taken for granted that he carries in his head a complete list of all the other Queen's graduates in his neighborhood.

No Local Constituency

The intellectual and civic advantages of this definite type of university life are obvious. The disadvantage comes to be seen when material things have to be considered. When the necessity arises, and it is always present, for raising funds, there is no local constituency to assume any large burden. McGill has behind it the English-speaking section of a great city. The City of Toronto itself represents a sufficiently large proportion of the population and wealth of this Province to care for the material interests of the University. Western University in London is in the centre of a rich and increasingly prosperous agricultural and manufacturing area. It has come into existence at a time when education is a vital interest and it has behind it to a remarkable extent the city in which it is situated. The City of London gives to Western University per annum one dollar per head of the population. The yearly subsidy from this source alone amounts to over fifty thousand dollars. Queen's has indeed been helped in no small degree by the place of its habitation. The citizens of Kingston erected the Old Arts Building; the City of Kingston donated the Kingston Hall, the new Arts Building, but the prospect of any considerable yearly grant is remote. Queen's Uni-

versity is bound to become, with the establishment of the Provincial Universities in Western Canada, and with the increasing strength of Western University in London, more and more the University of Eastern Ontario. Eastern Ontario, however, is not, and is not likely to become, one of the wealthy areas of Canada. When an appeal is made to the Queen's graduate constituency, it is made to a constituency scattered all over this continent and marked generally speaking by its loyalty rather than by its riches. The last endowment campaign, which doubled the invested funds of the University, had this significant feature. Apart from the large subscriptions of two men, the whole contribution of the Queen's graduates amounted to less than one hundred thousand dollars, and the raising of this amount took eighteen months of extremely hard work. These gifts of the graduates represented a great deal of self-denial on the part of hundreds of people, and yet the total result of the appeal to this most loyal and interested constituency was a comparatively small contribution.

When the needs of a modern University are considered, it is evident that some other method of arousing interest has to be adopted. Queen's great need is revenue and those who are not able to contribute much in the way of capital might be able to send yearly subscriptions which, while not large in the case of any individual, would make a considerable aggregate. This suggestion has been made by certain graduates, and it is one well worth considering. The Principal would, however, seriously urge upon the Trustees the consideration of the financial position. The old method by which Principal Grant spent and overspent his splendid strength in constant journeying and in the raising of small sums saved Queen's at that time. It brought the University, too, into real touch with the community, especially with the religious life of the community. But now, when the University expenditure is $500,000 a year the burden of raising money must be undertaken not by one but by many. Fees cannot be increased to any large extent. The grant of the Ontario Government has stood at $210,000 for the last three years. This was the sum given by the last

Government as a temporary figure when it became evident that the report of the University Commission would not be adopted. It is earnestly to be hoped that in spite of the difficult financial situation of the present Government this sum may be reconsidered in our favor.

The real welfare of the University depends upon the work of the staff, and, while it may be taken for granted that the spirit of the missionary still informs the men who are responsible for teaching in the institution, it is hardly fair to lay too great stress upon that splendid loyalty. A contented staff is more important than buildings and laboratories. During the last few years the Trustees, feeling the difficulty in which so many members of the staff have been placed, have been gradually improving the salaries of the lower paid members, while the reward of a head of a department has stood at the figure of $4,000. An effort should now be made to give some more adequate return to these men who really carry the load and upon whom the fame of the University depends. The last few years have seen much done in the way of new buildings, and, while the Trustees may endeavour to secure a greater annual revenue from the Government, the large assistance that the Government has given for these building purposes has always to be borne in mind. But it makes all the difference to the temper of a staff if it feel that as far as possible, its welfare is a pressing interest of the administration. As Dr. Skelton says in his report, "The proportion which expenditure for salaries, in the Faculty of Arts for example, bears to the total University expenditure is much less now than seven or eight years ago, and at the same time the ratio which fees received bear to salaries paid has greatly increased."

Immature Students:

The suggestion has frequently been made of recent years and has again been brought forward by the Minister of Education that the first two years of the Arts course should be undertaken either in certain selected collegiate schools or in small local colleges to be established. The difficulty of the

immature student seems to have been felt especially by the Provincial University. It cannot be said that the problem has been a pressing one in Queen's University where the rigid application of the Matriculation standards and the discouragement of the irregular student has been a settled policy. It has to be remembered that the transference from the University to the Collegiate Schools of one or two years of work would not limit, generally speaking, the cost of education to the parent, for the student would in most cases have to leave home to attend such an intermediate course. The pupil would lose, too, a great deal of what is best in University life, were the term of attendance to be so seriously shortened.

SEPARATE FACULTIES.

The detailed reports by the Deans of the Faculties will be found in the appendix to this statement.

Faculty of Arts:

Nothing that has happened in the University during the year has the same significance as the resignation of Professor John Watson, Vice-Principal and Professor of Moral Philosophy. For fifty-two years he has held his position as a teacher and his academic influence during that time has been without an equal in the University. Year by year he has sent out students who felt that to him they owed their whole conception of life, and this splendid ministry, exercised in the first place in Kingston, has been spread abroad throughout the world of thinking people by his books. His professorship covers the history of the University from the days of Principal Snodgrass until the present. Dr. Watson felt that Queen's was a worthy life's work and resolutely refused the opportunities which to a man of anything but his unworldly temper would have been full of attraction. He has had his reward in a personal affection given without stint, and with his departure there are many indeed to whom the glory of the place will have been eclipsed.

Professor A. S. Ferguson left at Christmas to take the

Chair of Philosophy in Armstrong College, Newcastle-on-Tyne. Professor Symons has accepted the Chair of Philosophy in King's College, affiliated now with Dalhousie. Mr. Reid MacCallum has returned from Oxford to act as Assistant Professor in the Department. It will be no light task to secure as Head a man who will maintain the pre-eminence which the subject of Philosophy attained in the University under Dr. Watson's splendid care.

Professor Sandwell has made an excellent beginning as Head of the Department of English. It is interesting, too, to note that in the Department of Latin there is a larger number of students attending advanced courses than has been registered for fifteen years. It has been so often taken for granted that in modern education the classics were bound to hold a diminishing place that this increase in the study of Latin is singularly gratifying.

It will be noticed from the registration that the number of Banking students is diminishing. Such a diminution was to be expected. When the Banking classes were a new thing they touched a field that had been unoccupied, and the first few years naturally attracted a large number of men of very varying ages. Now the supply is being brought to what we may consider to be a fairly constant figure.

The Summer School continues to grow and its success has been one of the most notable things in the University life of recent years. Certainly in Kingston with its natural beauty the Summer School should flourish. Professor MacClement's administration of this work has been so sympathetic as to have created a well grounded feeling in the minds of the Summer School constituency that a University was anything but an organization with a hard and fast line of approach to educational problems, but a most human and adaptable agency.

The suggestion made a year ago that the Summer School might be extended to cover a whole term's work has now been

definitely dropped. The lengthening of the teaching period in the Ontario Schools has made it impossible for teachers to take any share in an extended Summer Course.

The Faculty of Applied Science:

Professor William Nicol, who had so long given dignity to the Chair of Mineralogy and who even in his retirement and weakness had kept so lively an interest in the affairs of the University, died in the end of February. His name is perpetuated in the Nicol Hall as well as in the hearts of all his old students, who honoured and perhaps feared him when they were undergraduates and who loved him in their mature experience both for what they then realized he had done for them and for his openness in the giving of his counsel. He was indeed one of the outstanding figures in the history of the University.

Professor A. Ll. Hughes, who left the Research Chair in Physics to become Head of the Department of Physics in Washington University, St. Louis, has been greatly missed. His place, however, has been well filled by Dr. J. A. Gray of McGill University. Dr. Gray's work allows him to make use of much of the apparatus that had been gathered for Professor Hughes.

Chemical Engineering:

It is earnestly to be hoped that in the near future the trustees may be able to erect an addition to Gordon Hall for the extension of the teaching of chemical engineering. This important subject has hardly a chance in its present confined location and $20,000 or $25,000 would probably cover all that is necessary for the next ten years.

Geology and Mineralogy:

The Departments of Geology and Mineralogy are reverting to the pre-war arrangement with two men for each Department.

Electrical Engineering:

The movement into Electrical Engineering is pronounced.

Next year it is likely that one-third of the students of the Third Year will be taking this Course and some more modern equipment is required.

Dr. Mackintosh Bell Prizes:

Through the generosity of Dr. J. Mackintosh Bell the following prizes have been offered to the students of the Faculty of Applied Science:

Two prizes of $60 and $40 respectively are to be given to the student of the second year who makes the highest and second highest marks in the examinations in Chemistry, Geology and Mineralogy, and two prizes of $60 and $40 respectively to the students in the third year who present the best and second best essays on practical experience in the field in Geology, Mining or Metallurgy.

Medical Faculty:

The scheme for the rebuilding of the Kingston General Hospital is nearing its completion and in another year the new Clinical Ward with a Pathological Laboratory should be in full operation. This very extensive scheme would, of course, have been impossible but for the liberal government assistance granted to the Hospital through the University. It is hoped that the government may see its way to extend for two years the grant that it has been giving for this purpose. When the Hospital scheme is completed, it will be incumbent upon the trustees to see to it that the other Faculties, which in the meantime have had to dispense with much needed extensions, receive a due share of what is available.

Pharmacology:

The Chair of Pharmacology, founded some years ago by Dr. James Douglas, has been since the war in commission. It has now been filled by the appointment of Dr. Thomas W. Gibson of Ottawa. Dr. Gibson is an Edinburgh man who came to Canada with Lord Aberdeen and made a great place for himself as a practitioner in Ottawa. He will give instruction in Therapeutics as well as in Pharmacology.

As over thirty men have determined to take the examinations of the Medical Council of Canada, Kingston is this year to become an examining centre and so students will be saved the expense and distraction of mind involved in going to Toronto for the examinations.

BUILDINGS.

The Douglas Library:

The Douglas Library is practically completed and within a few days the moving of the books will begin. All the books in general use will be placed upon the upper of the two main tiers. The lower tier will not be required for some years and so the shelving has not for the present been added to these lower stacks. There are seven or eight rooms available for seminar work, but the glory of the building is the splendid reading-room occupying the whole of the top floor. It is expected that the total cost will be kept within the estimate of $370,000.

Women's Residence:

The Women's Residence is rapidly rising and will be occupied in the session 1925-26.

New Buildings Needed:

The immediate building needs in the University are a Union for the men students and the extension already referred to for Chemical Engineering.

Burning of the Skating Rink:

Once again the Principal has to report that the University buildings have had a narrow escape from fire. It was by the greatest good fortune, owing to the fact that the conflagration took place on an almost windless night, that the Gymnasium, the Medical Laboratories Building and the Principal's Residence were saved from destruction when the Skating Rink took fire.

DOMESDAY BOOK.

The Domesday Book, containing the record year by year

of the outstanding events in University life had ceased to be kept after the year 1902. There was thus the long space of twenty-two years to be covered and it was evident that the task would involve a great amount of labour in the searching of records. The Finance and Estates Committee asked Dr. Malcolm Macgillivray, whose memory of those events in which he has taken a part is so wonderfully accurate, to undertake the chronicling of these eventful years. His work is now completed and it has been done with a personal touch and with an intimacy that have made the record more than a mere colourless statement of facts. The hearty thanks of the Trustees are due to their fellow-member, Dr. Macgillivray.

THE UNDERGRADUATES.

The close relationship between teacher and student remains the feature of the academic life of the University. Every day one comes across instances of this good feeling and finds that personal interest taken in the student is manifested in all kinds of help given to him in subjects where he may happen to be weak. The system of studies is worked in no mechanical way and the absolute hewing to the line that might be necessary in a larger institution, where the conditions of each case could not be so accurately gauged, is absent here. The temper of the University has been excellent.

Student Government:

It has been evident for the last few years that the Alma Mater Society was losing ground. The attendance had come to be so small that by some adroit whipping up almost anything could be carried, with the result that student opinion was occasionally quite misrepresented. The solution which the students themselves have devised for this difficulty seems to be full of promise. The meetings of the Alma Mater Society will no longer be open to the general student body, but the Society will consist of an executive and of one representative from each forty students in a Faculty. Matters of business will thus have due consideration given to them, nor will it any longer be possible to pack a meeting. The Alma Mater So-

ciety intends to retain within its own Court more of the charge of student discipline than has recently been the case.

Medical Supervision of Students:

The medical care of students has been a matter under consideration for the last three years. The students, to begin with, paid $3 a head and the University turned the whole sum thus collected over to the General Hospital, which then accepted responsibility for the care of the student. This arrangement was found to be unsatisfactory both from the side of the University, which had reason to believe that students occasionally went into hospital with a medical certificate when examinations came in view, and also from the side of the Hospital, which felt that students out-stayed their medical welcome and added thus to the expense of the institution.

The next stage in the experiment was when the University retained the hospital fees of the students and undertook to pay, for students entering hospital,practically at the rates quoted for the general public. It was found that the loss sustained by the University under this procedure was considerable. Accordingly in the fall of 1923 the trustees resolved to confine the privileges of the students to hospital treatment for fourteen days. This regulation was unpopular with the undergraduate body, which thought that the arrangement would be carried out in a cast-iron way. As a matter of fact, under the careful supervision of Dr. Angrove, this scheme has worked much better than was anticipated either by students or by the Finance and Estates Committee. Students have made haste to get well in fourteen days. There have only been five cases where hospital treatment has lasted longer, and the shortest period of any of these five cases has been twenty-six days. There was thus a clear differentiation between casual ailments and serious trouble. The students, however, in objecting to this system have shown every willingness to adopt constructive measures and their suggestion now is that each student should pay $4 instead of $3 as a hospital fee; that for the first week of his illness in hospital he should pay nothing,

but that, if he is in hospital longer than one week, he should pay at the rate of $5 per week including the first week. This proposal of the students was made when it was realized that a man by being in hospital for some time, and therefore, saving his board, might be considerably in pocket. The students wish the University to accept the responsibility for specialists' fees in the case of operation, and it is likely that arrangements to this effect can be made. It is interesting to watch the scheme gradually developing. There is no arrangement elsewhere, where conditions are sufficiently similar, to guide the University, and the students are genuinely concerned that the problem should be worked out in a way that is fair to both parties.

Athletics:

There is no need once again to tell the story of the great football team. In basketball we were equally pre-eminent, although basketball has not yet become in Canada one of the major sports. The hockey team was distinctly above the average.

Student Societies:

The Student Societies are yearly changing their form. Organizations which many of the trustees will remember as strong things in their day have now disappeared, while others have come to the front. Local organizations are quite a feature of the day. Students from Hamilton, students of Simcoe County and Western students have all their separate organizations, which serve to keep men from one locality in touch with one another in college, and work as recruiting agents when the University is on vacation.

Debating:

Our success in this important contest was outstanding in the last session. We won all our debates whether our men took the affirmative or the negative, and the success has created a new interest in the contest. The trustees will understand that behind this success there is a great deal of patient and time-absorbing labour by members of the staff. It still remains a

matter for comment to a man familiar with life in the Old Country that there is in the Canadian University so little interest in the politics of the day. It would surely tend to the quickening of men's wits, while they are within the institution, and to the increase of their value in public life after they left it, if they could be induced to take more interest in the important questions that are debated in the Provincial and Dominion Legislatures.

Art Lectures:

The manifest success which attended the lectures of Mr. Lorado Taft on Sculpture and Architecture shows the large amount of latent interest that students have in the finer things of life. These lectures were made possible by a bequest of Captain George Richardson, and were arranged by Mrs. Etherington. Convocation Hall was much too small to hold the numbers that came together to hear this most interesting lecturer, and, should he return, it may confidently be expected that he will fill Grant Hall.

The Principal presents this report in the confident belief that the intellectual and moral standards of the University are being maintained. Occasionally those responsible for the administration have their days of visitation of the black dog. But to read the new chapter of the Domesday Book is to realize that problems, which come up to-day as though they were new things, have worried the men who went before us, and will in one form or another continue to be the major troubles of administration in all the subsequent history of the University.

R. BRUCE TAYLOR, Principal.

REPORT, DEAN OF FACULTY OF ARTS

I submit herewith the annual report on the Faculty of Arts.

Registration.

FACULTY OF ARTS	1922-23	1923-24
Intra-mural Students—		
Winter Session	606	608
Summer School	364	423
Extra-mural Students, Degree Courses—		
Winter Session	753	776
Winter Session, not attending Summer School	107	273
Extension Courses, not leading to Degree—		
Banking	316	241
Chartered Accounting	262	246

Work of the Session.

The work of the students this session has developed in members of the staff the usual gamut of emotions—the fear in the early months that what are significently termed "student activities" are diverting attention from the essential academic aims, the conviction of mid-term that some brands may still be plucked from the burning, and the recognition by the end of the year that capacity for work, power of thought, and thoroughness of attainment are as strong among Queen's men and women as ever before.

The measures adopted of recent years to check up the work of the weaker students are now bearing fruit. After the mid-term and spring examinations the work of every student who has failed in more than two courses is reviewed by a committee, and the student is called in for a special interview. The Faculty thereupon requires in each case a certain standing which must be attained during the following

period, and in the more serious cases the student's parents or guardians are notified. If the requirements are not substantially fulfilled, the student may be required to discontinue attendance in the University, or if improvement has been shown, he may be given a further period of probation. The endeavor is made to administer these rules with reasonable consideration for special handicaps. As an indication of the distinct improvement which has resulted from this tightening of standards it may be noted that whereas 98 students failed in three or more classes in January, 1923, there were only 52 such failures in January, 1924.

These regulations apply only to the weaker half of the student body, and merely ensure a respectable minimum of work. It is still more necessary to ensure that the better students are encouraged and enabled to make the most of their possibilities. This is not a matter of regulations: over-regulation may in fact defeat the end desired. It is essentially a matter of the quality and personality of the teachers, but also in some degree a matter of method. There has been a very considerable measure of discussion of teaching methods by members of the staff this session, and what is an equally healthy sign, by some of the more advanced students. There is general agreement as to the need of adapting to other subjects of study something of the problem method of approach of the natural sciences. This may involve, in literary fields, more emphasis on writing and less on absorbing criticism, and in historical or philosophical or economic fields, more emphasis on cases and more assignments for individual investigation; in all cases, it involves more emphasis on discussion and less on lectures. The decision of the Faculty to make a seminar or group discussion class a part of the work of every candidate for an Honours degree is an instance of this trend.

Changes in Organization of Work.

The chief change in organization effected this year has been the decision to hold the mid-term examinations before

instead of after Christmas. This will help to ensure a more prompt beginning of work, and will also make it possible for members of staff to read examination papers during the Christmas vacation, instead of trying as at present to read papers and carry on regular teaching at the same time. In order to prevent an undue difference in length between the two terms, it was further agreed to begin work in Arts, and also in Applied Science, a week earlier in the fall, and close a week earlier in the spring. Provision has also been made for advance registration, which should make it possible to start class work more promptly, and incidentally may encourage summer reading.

The Faculty has considered the possibility of lengthening the summer session to make it equivalent to one semester of the regular session. Careful enquiry made it clear that there was not at present a sufficient constituency in Ontario or in Canada to warrant the establishment of such a lengthened session, and on this ground, aside from opinions as to the staff and financial problems involved, the Faculty concluded that for the present at least the plan was not feasible. Proposals for the adoption of a quarter system, which would involve a more complete reorganization, were also considered premature.

The extra-mural correspondence or home study courses have been the subject of much consideration. It is agreed, and no less now when this method of instruction is being adopted by the majority of the universities than when Queen's was a pioneer in the field, that extra-mural instruction has been of distinct national as well as individual service. But with the great growth in the numbers of students seeking an Arts degree, in part, by this method, new problems of proportion in the direction of university activity and of the pressure upon the time and energy of members of the staff have arisen. It has therefore been considered advisable, while seeking to improve still further the assistance provided in the extra-mural courses and in the Summer School, to lessen the number of courses that may be taken

extra-murally in a year, to restrict enrolment of students under 21, and particularly to increase the minimum attendance requirements by making it necessary to take at least nine out of nineteen courses in attendance.

Changes in Matriculation

Two years ago, as the result of changes in the High School course of study and of representations as to inadequate preparation of many matriculants, it was agreed by the universities of Ontario to require a higher standard for entrance into Arts, in the form either of a high percentage on a certain number of Pass Matriculation papers or of Honour Matriculation standing in two subjects. Experience has shown that the method adopted was of doubtful wisdom: the new standards have been proved complicated and beyond the capacity of the normal student after a four-year High School course. It has therefore been agreed to return to the former Pass Matriculation standard, and at the same time to endeavor gradually to increase the content and raise the standards in the various subjects of examination. This solution, it may be added, was that which was advocated by Queen's two years ago.

The great increase in the number of students writing on supplemental matriculation examinations in September, and the consequent difficulty of marking the papers and announcing results before the opening of the universities and Normal Schools, led the Department of Education to propose the abolition of supplementals. The universities have agreed to this proposal for the coming year. A joint appeal board is to be established which will review all marginal cases, and take into account not only the June papers but school records and reports of any special circumstances, such as illness. In this way it is hoped that the work of this board will attain the objects for which supplemental examinations were originally established.

Some Needs of the Faculty.

I should like at this juncture to emphasize some needs of the Faculty of Arts.

1. *Keeping up Standards in Staff Appointments.* To quote from a previous memorandum: "Equipment and organization are of secondary importance. The first and abiding need is men, adequate in numbers and more than adequate in quality. We have our share of such men now: how to secure and retain still more should continue to be the University's primary concern.

In seeking new men for our staff, the first point which experience drives home is that we should go for young men of promise. The dream of attracting from elsewhere men of established and international reputation has occurred to most of us, but it is a dream. Queen's has never in its history secured such a man, and it is less likely to do so under present conditions than of old. Every one of the men who gave Queen's its prominence in the past came as a young man and put his youthful enthusiasm and ambition into the service of Queen's. We cannot under our conditions secure such teachers ready-made; we must grow our own."

2. *Salary Increases.* Given this need, and given the great increase in recent years in the openings and demands for good university teachers in Great Britain, the United States, and Canada, it is clear that the question of salary is vital. "University professors have their due share of the missionary instinct; constructive opportunities or congenial associations or old memories will count. In Queen's particularly we may hope that an honored past, the established tradition of freedom, the goodfellowship which marks the staff, will weigh with those who know of these advantages. But, other things being equal, the question of salary, allowing of course for relative living costs, will have a great influence in deciding where the good men will go and whether they will stay. If Queen's is to attract and hold men of promise, she must offer a salary comparable to that offered elsewhere and adequate for the special needs of continued graduate study, or travel, or purchase of books, which are requisite if men are to keep growing and familiar with their field of work, as well as for the general bread-and-butter needs of normal professional men with

families. While substantial increases were made in the Queen's scale a few years ago, they have not kept pace with the advance in living costs or with the advance in salaries elsewhere."

I noted a year ago that the average associate professor in Toronto received as much as the average head of a department in Queen's, and the assistant professor as much as Queen's full professor (not head of a department); that the average master in the seven normal schools of Ontario received a higher salary than the average full professor in Queen's, and the average male assistant in the collegiate institutes slightly more than our assistant professors.

The difficulties at the present time in securing additional funds, at least from private sources, are obvious, but it seems desirable to raise the question again in order that such an increase will be recognized as constituting a first charge on additional funds when they do become available. In this connection it may be noted that the proportion which expenditure for salaries, in the Faculty of Arts for example, bears to total University expenditure is much less now than seven or eight years ago, and that at the same time the ratio which fees received (for intra-mural, extra-mural, and extension courses) bear to salaries paid has greatly increased.

3. *Probation and Promotion.* Along with a salary scale sufficient to attract prominent men, there should go a systematization of the present measures taken to test and ensure the fulfilment of that promise. Appointments are at present probationary, and for one session only, during the first two years; perhaps this rule would be still more serviceable if the Principal were to call at the end of each new instructor's first year of service for a written report on his work from the head of the department concerned, and at the end of the second year for a report from the head of the department and the dean of the faculty. Assuming satisfactory work, within each grade an annual minimum increase by a definite sum should be the rule, but promotion from one grade to another

would require in addition some evidence of growing capacity, whether distinct success in teaching, publication, or research, or, in the case of junior men, the completion of special courses of study abroad.

4. *Additions to Staff.* There is need for additional instructors, particularly in moderns and in public speaking; additional assistance for the extra-mural work, growing yearly heavier; and such additions and rearrangements as will make it possible to give more individual or tutorial instruction and discussion in the large pass classes.

5. *Special Lectureship.* In our needs I should like to include the provision of a special lectureship, adequately endowed, to be filled by some distinguished visitor for a year or semester, in different departments in turn. While such a man might be available for a few public lectures, his main work would be to carry on regular courses in some department. In this way we could secure the recurrent stimulus of men with fresh points of view. Possibly such a fund would help to solve the question of a sabbatical year.

6. *Research and Publications.* The appropriation by the Trustees of a grant to provide four graduate fellowships is proving of distinct value both to staff and students; further appropriations would be very helpful. A good beginning has also been made in assisting publication; much more may be done: the Department of History, for example, has some projects in view which would be of distinct service to Canadian scholarship.

7. *Buildings and Equipment.* This is not at present our most serious need. Most Arts departments have adequate quarters, except Biology, which is to be given better accommodation this year. One distinct need is for increased office and consultation facilities.

8. *Scholarships.* Some of us would like to see a Queen's scholarship in every county in Ontario, or at least Central and Eastern Ontario.

I should like, in conclusion, to note the very great amount of time and care which has been given to general questions of academic policy, as well as to individual cases, by the members of the Faculty and by Committees, particularly the Board of Studies, during the session, and the good relations which have prevailed throughout.

Yours sincerely,

O. D. SKELTON.

REPORT OF FACULTY OF APPLIED SCIENCE

I have the honour to present herewith the annual report on the work of the Science Faculty.

The record attendance is as follows:

BY YEARS

First Year	71
Second Year	52
Third Year	45
Fourth Year	70
Graduate Students	6
Total	244

BY COURSES (EXCLUSIVE OF THE FIRST YEAR)

	2nd year	3rd year	4th year
Course A	11	2	12
B	3	5	2
C	1	1	1
D	5	6	14
E	10	11	14
F	6	12	11
G	15	7	15
H	..	1	..
F & G	..	..	1
G & H	1	..	..
	52	45	70

As was foreseen, the attendance was somewhat less than for the previous year. The decrease was due to the graduation of the large class of '23. The first year, however, shows a comfortable increase over the figure for a year ago. The effects of the war and the increased matriculation requirements are now about over and it is to be expected that the increase will be slow and steady. It is expected that next year's entering class will number about 80.

As will be seen from the above table, the tendency toward electrical engineering continues, while the number in mining shows a marked increase. This is to be expected when we consider the flourishing condition of the mining industry.

The attendance on lectures and laboratory classes shows the same satisfactory condition as was noted last year. The

system of checking absences, when observed without pettiness, is effective. The number of delinquencies is pleasingly small.

The only change in the staff was the appointment of Dr. E. F. Whyte to replace Dr. John Waddell, who died early in 1923.

The following items are contributed by the heads of the various departments.

Mining and Metallurgy.

The number of students in the fourth year in this department is about the normal number, 12 in Mining Engineering and 6 in Metallurgy. The effect of the depression in the mining industry in 1920 and 1921 is felt now in the small number of third year students taking these courses.

The arrangement by which the M. J. O'Brien Company, Limited, has been carrying on its metallurgical research in the laboratories of Nicol Hall has terminated. As a consequence Professor C. W. Drury, who has been in charge of the work and has been joint head of the department, has resigned in order to devote all his time to the Company's interests. The appointment of a successor to teach Metallography and Electro-Metallurgy is necessary.

During the session investigations into the purifying of talc from Ontario mines has been carried on continuously by members of the staff.

A number of necessary additions have been made to the equipment in the ore dressing laboratory. Where possible, the machines were built in the college shops. All will be available for a new mining laboratory when funds are secured for this very much needed building.

Mineralogy.

The routine work of the department of Mineralogy was carried on during the 1923-1924 session much as in former years. A short course in the preparation and microscopic

examination of the minerals, formerly given as a voluntary class to Course A men in the final year, was this year included in the laboratory work of the third year, so that students might be prepared to use those methods in the Milling of the fourth year. In addition to the teaching the usual number of determination of mineral specimens sent in from various localities was made. Exchanges were carried on with several collectors. Lack of assistance, as in former years, has greatly hampered the proper arrangement and exhibition of minerals and has prevented the examination of specimens that may be of some scientific interest. However, a case of rather spectacular gold ores from some of the larger mines of the Porcupine district has been assembled in the basement and adds considerably to the interest of the economic collection.

It is hoped that in the coming session the appointment of an assistant may be authorized. With extra help, even of a half-time man, the sorting and labelling of the large quantity of valuable mineral specimens now unavailable for demonstration or exchange may be undertaken.

Geology.

It is desirable that there be one man in this department to instruct in the field of Economic Geology, Petrography and Metamorphic Geology, with a second man to take the work in Stratigraphy, Structural Geology and Paleontology.

Prior to 1909 there was a graduate assistant in each of the departments of Geology and Mineralogy. In order to pay more attention to Historical Geology and Paleontology, a man of professorial rank was appointed, and after that date and until 1921 the department had two men. In 1921 the new appointee was given charge of some work in Mineralogy, and this amount has been gradually increased until Dr. Rose, the present assistant professor who is working in both departments, is doing a large amount of work in Mineralogy.

It is highly desirable that he give more time to Paleontology, Historical Geology and Stratigraphy, and that the additional assistance be given the department of Mineralogy.

Electrical Engineering.

No new power machines were added to the equipment. A few new meters were bought and a start made toward collecting material for a standardizing laboratory. The large additions were in the vacuum tube field where we are now in fair shape.

The Radio Station, C.F.R.C., was put in commission and operated on twenty-three occasions for a total of sixty hours. Full running reports were broadcasted of all Senior Intercollegiate games and, as the numerous replies (about sixty) showed, were much appreciated. The Journal gave a radio edition on Wednesday evenings and is planning to enlarge this feature next year. The station was heard as far east as Windsor, N.S., 600 miles; as far south as Greenville, S.C., 750 miles; as far west as Worthington, Minn., 950 miles, and Oregon, 2300 miles. There is no question of the range or efficiency of modulation of C.F.R.C. local opinion to the contrary notwithstanding. Very little more is needed except a special microphone for music.

The electrical laboratories had a special grant two years ago of $3000, which was nearly all used in adding a new laboratory and repairing the ravages of the D.S.C.R. There are no new machines (with one exception) of a type developed since 1909. A great many new principles and inventions can be shown the students only on paper and not in the laboratory. To add some of these new machines and some standardizing apparatus will take about $5000. A high voltage transformer will cost about as much more.

In view of the fact that one-third of the whole third year next year will be in Course G (and although this is nearly twice the previous largest proportion, the indications are that it will be maintained or even exceeded in the immediate future), it will be necessary that a further extra grant be made next spring if the equipment of this department is to keep pace with its very urgent needs. The Technical Supplies' store is vacat-

ing Rooms 8 and 9, Fleming Hall. These two rooms are also urgently needed.

Graduate Students.

The number of men taking graduate work in the various courses is larger than ever before. In the department of Chemistry three have been working for the Master of Science degree and engaging in research. In the department of Physics there has been one. This increasing number of graduate students, who return for a year of study and research under some member of the staff, is one of the very encouraging signs. It is evidence of the increasing interest in scientific research and the value of such an increased interest is beyond any one's powers to estimate.

Needs.

The needs of the Science Faculty are not numerous but are acute. A new mill for the Mining and Metallurgy department is needed. This need should be met very soon if Queen's is to keep her enviable position as a School of Mining. Increased space for the work in Chemical Engineering is required so badly that the department finds itself unable adequately to care for the relatively large number of students who are crowding its quarters. A small wing or separate building should be provided very soon.

As was pointed out last year, the Physics department is suffering for want of room to carry on its work. Every available inch of space in the half of Ontario Hall, set aside for its work, is being used, and there is no space into which to expand. The increasing amount of important research which is going on makes heavy demands on the rooms and there is at present no room in which new work can be undertaken. The situation is acute and demands attention.

Lectures.

During the year, through co-operation with the Engineering Society and the Kingston Branch of the Engineering Institute, a number of prominent men have visited Queen's

and lectured to the students and the citizens of the city. The list is as follows:

Dr. J. Mackintosh Bell lectured on Canada's Great Mining Heritage; Three Great Australian Mines; Mining in Russian Turkestan.

Professor J. F. Kemp lectured on Canyons and Natural Bridges of South-eastern Utah; Contact Zones; Some Recent Developments in the Study of Ore Deposits.

Dr. B. R. MacKay lectured on Canadian Placer Deposits; Prospecting in the North-western Frontier of India.

Principal F. H. Sexton lectured on Gold Mining of Nova Scotia.

Dr. Julian C. Smith lectured on the Construction of a Water Power at La Gabelle; The Development of a Water Power.

The Engineering Society has as usual been an important factor in the successful work of the year. The splendid co-operation between the staff and students is one of the greatest assets of the faculty and the strong executive of the Engineering Society has been a real force.

Respectfully submitted,

A. L. CLARK.

ANNUAL REPORT MEDICAL FACULTY

Session 1923-24.

The registration for the seventy-first session of the Medical Faculty is as follows:

First year, six-year course	43
Second year, six-year course	59
Third year, six-year course	57
Fourth year, six-year course	50
Fifth year, five-year course	65
Total	274

The death of Dr. Mundell last summer was a severe loss to the Faculty. Dr. Mundell was a member of the Faculty since 1889 and served it in many ways. He was greatly beloved by his colleagues and students, and all miss him very much.

Upon the death of Dr. Mundell, Dr. Austin became head of the surgical department and services. Dr. F. Etherington was appointed Associate Professor of Surgery.

Dr. John Currie, Professor of Preventive Medicine and Public Health, was offered and accepted the Chair of Preventive Medicine in Glasgow University. The work of his department has been carried on by Dr. W. T. Connell and Dr. Williamson.

In January Dr. Boyce retired from the Faculty. Provision has been made to carry on his work by other members of the Faculty.

Mr. Farrell, Lecturer in Jurisprudence, retired and Mr. Rigney has accepted the appointment.

Satisfactory progress has been made in the building programme of the General Hospital. The heating plant, the service building, the new private rooms, the laundry and the isolation building are all in operation. Contracts have been signed for the erection of the clinical building and pathological

unit, and it is expected these will be completed by the end of 1925.

The routine work of the session has been entirely satisfactory. The class which graduates this year marks the end of the five year course. All those of the following years are being educated on the basis of the six year course.

During the past year the school was inspected by Dr. Cutter, representing the Board of Regents of New York State, and by Dr. Lee, representing the State Board of Pennsylvania. The reports in each case were favorable and this school maintains its status with the licensing boards of New York and Pennsylvania.

A course of Post-Graduate Lectures has been delivered during the session as follows:

Oct. 31st—Sir Henry Gray, Royal Victoria Hospital, Montreal. "Some Problems in Connection with Drainage of Surgical Cases."

Nov. 9th—Prof. Reed. "The D'Herelle Phenomenon—a New Factor in Immunity."

Nov. 23rd—Prof. Hunter, Toronto. "Newer Ideas about Ketosis and Acetonuria."

Dec. 6th—Prof. James Miller. "The Kahn Precipitation Reaction."

Dec. 14th—Prof. Rudolf, Toronto. "The Treatment of Heart Disease."

Jan. 11th—Dr. Etherington. "The Use of Radium in Surgery."

Jan. 25th—Dr. Banting, Toronto. "Insulin in Diabetes."

Feb. 8th—Dr. Gibson, Ottawa. "The Treatment of Pneumonia."

Feb. 22nd—Dr. Connell and Dr. Lothrop. "The Kidney Efficiency Tests and their use in Practice."

Mar. 6th—Prof. Robertson. "X-Ray Dosage."

Mar. 21st—Dr. Little. "The Action of Dye Stuffs on Bacteria."

Apr. 11th—Dr. Campbell Laidlaw, Ottawa. "Some Case Problems."

Apr. 25th—Dr. J. B. Comrie, Edinburgh. "Early Anatomical Teaching at Edinburgh."

These are carried on with very little expense and are well attended and appreciated.

J. C. CONNELL, Dean.

REPORT OF SUMMER SCHOOL

In spite of the fact that there were six Summer Schools last July between Kingston and the Pacific Coast, we have great satisfaction in reporting that Queen's Summer School maintained a fair rate of increase. During the last three years, 1921-23, the attendance has been 289, 367 and 423. Four took Physical Culture Courses only, and six were Research students in Ottawa. All the others were taking regular subjects in Arts.

By courses the registration was as folllows:

Professor Roy—English 1-43, 2-40, 24b-21.
Professor Conacher—French 1-56, 2-40, 11a-10.
Professor Jolliffe—Latin 1-36, 2-13, 24b-5.
Professor Macgillivray—German A-2, 1-1, 2-2.
Professor Lofberg—Greek A-5, 1-1, History 4-11.
Professor McArthur—History 3-48, 13-19, 21b-10, Research 6.
Professor Symons—Philosophy 1-48.
Professor Mackintosh—Economics 1-20, 2-16, 63b-5.
Professor Miller—Mathematics 1-43, 2-11, 10a-3.
Dr. Clark and Mr. Ball—Physics 1-46, 2-15, 14b and 15b-4.
Mr. Sine—Geology 1-37.
Mr. Sine—Mineralogy 1-23.
Professor McRae and Mr. Dorrance—Chemistry 1-39, 2-18, 31-5.
Professor Earl—Biology 1-58, 2-26, 14a-3, 15a-3, 21-13.
Drs. E. F. Scott and T. R. Glover—Religious Education 56.
Lieut. Bews and Sgt. Major Gilbert—Physical Training 41.

Of the total attendance 203 were men, and 220 women. The regions from which Queen's drew these students were as follows: Newfoundland 2, Prince Edward Island 4, Nova Scotia 5, New Brunswick 8, Quebec 24, Ontario 348, Manitoba 4, Saskatchewan 11, Alberta 10, British Columbia 5, United States 4, France 1.

With the consent of the Ontario Department of Education and the generous aid of the Department of Militia, especially of the officers of the Headquarters of Kingston Military District, we were able last summer to give for the first time the elementary Physical Culture Course, as well as Strathcona Grade B and Grade A Certificate Courses. This work was done most satisfactorily by Lieut. Bews and Sgt. Major Gilbert, with Miss Stockley assisting with the courses in Folk Dancing.

This was the first time the course in Physical Culture for the Ontario Department's Certificate has been given outside of Toronto, and we expect to add to last year's course that for Supervisor and for Specialist in Physical Training, and for the Cadet Instructorship.

The Course in Religious Education arranged by the Theological College and given by these two scholars of international reputation, Dr. T. R. Glover of Cambridge and Professor E. F. Scott of the Union Theological Seminary, New York, proved most interesting .The fame of the lectures drew many ministers from all parts of Eastern Ontario, and the combination of scholarship of the first rank with spiritual enthusiasm was speedily recognized by the students of the Summer School. The experiment proved so successful that it is to be repeated in the coming summer, when Dr. J. R. P. Sclater of Toronto will give ten lectures on "Optimism in Modern Poetry."

The Summer School students carried through their usual series of social entertainments and athletic tournaments in first rate style, as well as their annual excursion.

An interesting matter was the desire for a Summer School of twelve weeks, to be considered equivalent to one term of the regular winter session. In spite of various difficulties, such a term, to last from June 10 till August 30, might have been organized. But the lengthened school year, decreed by the Minister of Education, made it impossible for us to have the number of teacher-students sufficient to justify the expense of such an undertaking. The idea has been postponed till conditions are more favourable.

Summer study has become so important in Canada that improved methods of serving the extra-mural students of all the provinces will be developed by the various Universities. Queen's should not fail to keep her premier position.

Respectfully submitted,

W. F. MacCLEMENT,
Director.

REPORT OF SCHOOL OF NAVIGATION

I have the honour to present herewith the annual report for the tenth session of the School of Navigation.

The school opened on January 2, 1924, and closed April 2, 1924. The work of the school has been of the same high order as in the past few years, the attendance has been good and the number of men who qualified for various grades of certificates larger than ever before.

Seventeen men have passed the various examinations as follows:

Mate Inland Waters	7
Master Inland Waters	4
Mate Minor Waters	1
Master Minor Waters	3
Mate Coasting	2

In addition to the above certificates granted by the Government, four candidates passed the examinations for the University Diploma.

In all thirty-one men attended the school. Eight of these have not had sufficient time at sea to be eligible to write the examinations. One point that should be mentioned is the fact that the number of men from outside attending the school is constantly increasing, showing how the reputation of the school is spreading.

The school continues to be one of the best of its kind in the country, and its work is recognized by the Department of Education as of exceptionally high character.

It was hoped that the class for Marine Engineers would be re-opened this year, but no satisfactory man was found for instructor. An attempt will be made this summer to find such a man.

Respectfully submitted,

A. L. CLARK.

REPORT OF EXTRA-MURAL WORK

The registration of Extra-mural students for the year 1923 Summer Term and for the 1923-24 Winter Session has shown an increase over previous years. For the past five years comparative figures are as follows:

	1919-20	1920-21	1921-22	1922-23	1923-24
Summer	349	355	439	571	696
Winter	529	557	635	753	776

Of the 696 registered last summer, 374, or 53.7% were men and 46.3% women. During the winter session the proportion was 55.7% men and 44.3% women. As 395 students were enrolled for both summer and winter, the net registration for the year was 1077, as against 975 for 1922-23.

REGISTRATION BY DEPARTMENTS

"E" refers to the Elementary Courses 1 and 2.
"A" refers to advanced courses.

	Summer 1923	Winter 1923-24	Total
Latin—E	93	76	169
A	6	3	9
Greek—E	11	18	29
A	..	3	3
Hebrew—E	5	2	7
German—E	10	2	12
A	..	2	2
French—E	133	123	256
A	17	28	45
Spanish—E	8	17	25
A	..	6	6
English—E	145	195	340
A	65	155	220
History—E	107	121	228
A	73	59	132
Economics—E	74	68	142
A	69	148	217
Philosophy—E	82	69	151
A	2	4	6
Mathematics— E	98	117	215
A	11	22	33
Physics— E	59	17	76
A	9	..	9
Chemistry—E	51	..	51
A	6	..	6
Biology—E	86	15	101
A	34	5	39
Geology—E	40	..	40
Mineralogy—E	27	..	27

NOTE:—Advanced courses consist of half or whole courses, depending upon the department concerned. For example, all the work in Economics and English is in terms of half courses, while that in History is partly whole courses. Mere numbers cannot serve as a basis of comparison since a student during the winter term was permitted to register in four half courses or in two whole courses.

Ages and Entrance Standing of New Students.

The following statistics show that at least 80% of the extra-mural students had passed their "teens" when they first registered. Over 50% had standing beyond Pass Matriculation.

Age 17	3	1.4%
18	5	2.4%
19	15	7.3%
20	22	10.8%
21 - 24	59	29.6%
25 - 29	47	23.1%
30 - 39	44	21.6%
40 - 50	8	3.8%
Totals	203	100.0%

Entrance Standing.

Full Pass Matriculation	49	24.1%
Honour Matriculation in one or more subjects	104	51.2%
Unmatriculated, over 21	41	20.2%
General Students	9	4.5%
Totals	203	100.0%

When the extra-mural department was first organized in 1878, the main object of the Senate was to extend university privileges to teachers on service. While the majority of the students are in the teaching profession, men and women in other walks of life and from all provinces of Canada are taking advantage of extra-mural courses.

Occupations, Winter Registration, 1923-24.

Teaching	574
Ministry	22
Office Work	80
Industrial	10
Other Professions	16

Students	12
Farming	6
At Home	15
Not Stated	41
Total	776

Location of Students.

Winter Session, 1923-24

British Columbia	26
Yukon Territory	1
Alberta	50
Saskatchewan	66
Manitoba	8
Quebec	38
New Brunswick	13
Nova Scotia	7
Prince Edward Island	1
Newfoundland	4
United States	10
Ontario	552
Total	776

The large registration of extra-mural students would indicate to the casual observer that a substantial number of students are obtaining their education through the Summer School without any attendance at the winter sessions. Statistics, however, show that a large percentage of the extra-mural students have attended one or more regular sessions, thus increasing the intra-mural attendance beyond what would have been possible had no opportunity been given to teachers to embark upon an Arts or Commerce course.

The total number of students graduating in 1923 through extra-mural and Summer School study was 38.

Students who attended Summer School 1923, and registered for intra-mural work 1923-24, numbered 43.

Extension Lectures.

The session just closed has been a successful one in the matter of University Extension Lectures given by the professors. Reports from the various departments have been received, showing a total of 73 lectures delivered to representative organizations in various parts of the province. Some of

the towns visited were: Hamilton, Toronto, London, Lindsay, Prescott, Brighton, Port Hope, Watford, Norwood, Brantford, Napanee, Belleville, Cataraqui, Kingston, Ottawa and Montreal. The bodies to whom lectures were given are as follows: Rotary, Kiwanis, and Canadian Clubs, Church organizations, English and Literary Clubs, Historical Societies, Teachers' Institutes, High and Normal Schools, Alumni Conferences, Biological Societies, Banking Institutes, Chamber of Commerce, and the Notre Dame Convent.

Respectfully submitted,

A. H. CARR,
Director of Extension Work.

COURSES IN COMMERCE AND ADMINISTRATION

The fourth session in which the work of the Courses in Commerce and Administration has been carried on has been successfully completed. The routine work of the Courses has been satisfactorily conducted, although the resignation of Professor C. A. Ashley occasioned a shortage of staff. The size of the classes shows a gratifying growth and the employment of our graduates by a considerable number of the best Canadian corporations indicates that some progress is being made in training men for the world of business affairs.

As in previous years a number of lectures on business subjects have been given by men actively engaged in business, and those in charge of the Courses wish to acknowledge the co-operation which men with many demands on their time have given to this work of business education. There is noticeable a continually increasing interest on the part of the business community in the problems of business training.

The continued success of these Courses will depend to a large extent on the success of the Staff in fitting them to the specific needs of Canadian business and of gathering together a sufficient amount of case material so that students may be taught the principles of business as much as possible through the consideration of current problems. There seems little doubt that the case method of teaching business will assume as large proportions as the same method has in the teaching of Law. It is already being used in our Courses to as great an extent as the hitherto scanty collection of Canadian material would permit. It is hoped in the near future that a much larger amount of material may be gathered and more laboratory work done.

Courses in Banking.

The total number of registrants in the Courses in Banking this year is 241. Of these 100 are first registrants in the Fellows' Course, while 107 have been previously registered

in that Course; 24 are taking the First Year Spanish Course and 10 the Second Year Course. This represents a decline as compared with last year, but only a small part of the decline is among the new registrants.

As formerly, lectures have been given by members of the staff at local Bankers' Institutes. In particular a series was given before the Kingston Bankers' Institute by Professor Smails and Professor Walker and the Director. It is desirable that this phase of our work should be extended as much as possible.

During the past year the D. R. Wilkie scholarship given for an essay in "Minor Profits, their Character, Importance and Best Method of Collection," was awarded to W. L. Aiken, of the Molsons Bank, Toronto. The scholarship was supplemented by one of similar amount open to employees who were not registered in the Associates' or Fellows' Courses. The latter scholarship was won by B. E. Howard, of the Imperial Bank of Canada, Toronto. Both scholarships have been renewed for the current year owing to the continued generosity of the Imperial Bank. In the Fellows' Course in Banking last year 35 students completed the course, while in the Associates' Course there were 121 graduates.

Courses in Accounting.

The past session has seen the completion of the writing of the Courses prepared by our Staff in co-operation with the Institute of Chartered Accountants of Ontario. The work which now lies before the Staff is that of consolidating and perfecting the Course as a whole and keeping it up to date. It is practically necessary in the training of Accounting students that Courses should be consistent with the current practice in all cases.

The registration in the Courses is 200, with an additional 46 students who have been carried over from the previous year, making a total of 246.

During the past year negotiations have been carried on with the University of Saskatchewan for the extension of these Courses, under a co-operative scheme, to the Province of Saskatchewan and substantial agreement on the basis of co-operation has now been reached. While the number of students in Saskatchewan is not large the step is one of some importance, as it is in the direction of uniformity of training for Chartered Accountants in all the Canadian Provinces. The Director and Staff once more record their appreciation of the co-operation of the Board of Instruction of the Institute of Chartered Accountants of Ontario and of its Committee of Instructors, to whose efforts much of the success of the present Course is due.

Respectfully submitted,

W. A. MacKINTOSH.

REPORT OF LIBRARIAN

I have the honor to submit herewith my report as Librarian of Queen's University for the year ending March, 1924.

Accessions.

The number of titles added to the general library during the year was:

By purchase	1192
By gift	1442
Total	2634

A systematic effort has been made to fill gaps in our sets of the publications of learned societies. As a result of requests sent out by the library in this connection we have received the following notable accessions:

Casopis. Vols. 1 to date, in all 20 volumes. From Societas Entomologica Ceskosloveniae, Prague, Czechoslovakia.

Michigan Pioneer and Historical Collections. Vols. 33 to 39 inclusive, and index to Vols. 16-30. From Michigan Pioneer and Historical Society, Lansing, Michigan.

Alma Cubana. Vols. 1-2. From the Director Sr. Salvador Salazar, Havana, Cuba.

A list of the stock of Canadian Government publications held by the Public Printer, Ottawa, has been checked against our own collections and all missing material has been requested. We expect to receive these publications during the current month.

The Minnesota Historical Society has indicated its willingness to complete our set of its publications. Many important works relating to Canadian history and to the history of the United States have been obtained from the Library of Congress, New York State Library, and others.

Mr. Lorado Taft has presented the library with autographed copies of his "Modern Tendencies in Sculpture" and "History of American Sculpture."

From Professor S. A. Mitchell of the University of Virginia we have received autographed copies of his "Eclipses of the Sun" and "Parallaxes of 260 Stars."

Dr. Lorne A. Pierce of Toronto has given us copies of two privately printed works, "Little Book Thy Pages Stir," by Archibald Lampman, of which only fifteen copies were printed, and "Albert Durrant Watson, an Appraisal," of which 200 copies were issued.

Various letters, documents and pamphlet material important in connection with the early history of Presbyterianism in Canada have been obtained through the kind offices of Principal Dyde and the Reverend Mr. Boyd.

The list of gifts received from other universities, colleges and societies, as well as from individuals, including members of the University staff is so long that it is impractical to include it here.

Staff.

During the year there were two new appointments to the staff. Nathan van Patten, formerly assistant librarian of Massachusetts Institute of Technology, assumed the Librarianship on October 1st, and on the same date, Miss Catherine L. Tracey took over the duties of chief cataloguer. Miss Tracey had formerly been with the United States War Department and the Library School of the New York Public Library. There was one resignation during the year, that of Miss Helen Subers, as chief cataloguer. Miss Macgillivray was absent on leave, from September 1st, in order that she might attend the New York State Library School at Albany. As a preliminary to removal to the new Douglas Library building, the work of the library has been divided as far as was possible in the old building, into departments. This organization will be completed when the new building is occupied. The departments

are as follows: Cataloguing, under Miss Tracey's direction. This department is concerned with the classification and cataloguing of the current accessions, the re-classification and re-cataloguing of the older material, the labelling and repairing of books and preparation of pamphlets and manuscripts for use. Miss Rayson has charge of the Reference Department, which assists in the use of the library and the supervision of the reading rooms. Miss Jones in the Order Department is responsible for the filing of orders and correspondence, the receiving and checking of shipments, preparation of books and journals for the bindery and recording the receipt of periodicals. Miss Uglow is in charge of the Circulation Department which supervises the issue and return of books. Miss Uglow has also kept the library records. Miss Mavety has charge of the Extra-mural Department which cares for the circulation of books to extra-mural students and inter-library loans to or from other libraries. Miss Macgillivray, Miss Porteous, Miss Holland and Miss Murray are assigned to the Cataloguing Department.

Service.

The library has taken over from the departments the ordering of books and journals. This includes both the Science and Medical Faculties. As a result there is not only considerable detail work saved to these other departments but greater efficiency is obtained in that our buying power is increased, resulting in improved service and prices, and there is an avoidance of duplication in purchases by various departments of the University.

During the year we have borrowed books needed by members of the staff, from Harvard College Library, Columbia University Library, Library of the Department of Agriculture, Washington, D.C., McGill University Library. We have obtained photostatic copies of desired material from Engineering Societies' Library, Chemists' Club Library and New York Public Library, New York City. In return we have loaned books to the Royal Military College and have rendered occasional assistance to the Government departments at Ottawa.

The Librarian has given addresses to the students of the biology and chemistry departments on the use of the library, and has also addressed a joint meeting of librarians and chemists at Ottawa.

Catalogue.

Work has progressed steadily on the preparation of the new card catalogue, as will be indicated by the following table:

	1922-3	1923-4
Accessioned	4750	5366
Classified	6481	5936
Catalogued	5599	6238
Labelled	6343	5921
Cards written	16084	17970

In general this shows a substantial increase in the amount of work finished this year as compared with the previous year. It deserves special comment since this increase has occurred despite the fact that for one month there was no chief cataloguer and that for seven months there were only three persons in the cataloguing room instead of four. This showing has only been possible by the very good spirit of loyalty and co-operation shown by the staff and the very evident interest which has been taken in the work.

Removal.

It is expected that the removal of the library will be completed during the summer months and that the opening of the next university year will see the new Douglas Library building in use. It is planned to house the re-classified section of the library on the shelves of the main stack, second level, the first not now being shelved. The unclassified books will be shelved in the three tiers of the North Stack, while the South Stack is used for storage of duplicates, etc. The present collection when entirely re-classified can be accommodated on the shelves of the main stack, leaving the North and South Stacks available for expansion. The library should now enter into a period of greatly increased value to the university community. The re-cataloguing and re-classification of the collection making it so much more available for research, the splendid main

reading room, the smaller reading rooms and the stack cubicles offering the most convenient opportunity for study and the gifts that we have every reason to expect will materialize for the library's enrichment, all point to this.

Extra-mural.

During the year 400 students have borrowed books through the extra-mural department of the library. The number of books so loaned exceeds 1,700.

General.

The librarian, with the assistance of Miss Holland and Miss Mavety, is classifying and arranging material which is in classes for which the Library of Congress classification is not yet available. At present this work is confined to Theology, of which some 1,500 titles have been handled.

Miss Rayson has prepared a good working list of a number of the manuscripts in the library and this work will be continued.

The rare books, pamphlets and manuscripts in the library are being identified and gathered in the library office as steadily as is possible. This can be largely concluded during the process of moving, when of course everything will need to be handled. Many books, however, of value, may elude us until they are handled by the cataloguers. Among the rarities already segregated are many association books, first and limited editions and especially important and scarce Canadiana.

NATHAN VAN PATTEN, Librarian.

REPORT OF SCIENCE RESEARCH COMMITTEE

I have the honour to present herewith the annual report of the Science Research Committee for the session.

In spite of the resignation of Dr. A. Ll. Hughes, who has held the position of research professor for four years, and the fact that his place was not filled until January, the actual research output of the University is larger than ever. More men have been at work and the interest already considerably enhanced has still further grown. The research professorship has been filled by the appointment of Dr. J. A. Gray, who comes to us from McGill University, and who will carry on here the investigations already begun at McGill on the Scattering of X-rays and kindred problems. A new room has been partitioned off and equipped for Dr. Gray's work on X-rays. The position of instrument maker has been vacant for a year but will soon be filled by the appointment of a competent mechanic who was trained in the laboratory of Professor Kamerlingh Onnes at Leiden.

The various researches conducted in part, at least, by grants made by the trustees on recommendation of the Research Committee are described as follows:

Dr. G. B. Reed has continued his investigation on the influence of sodium, calcium and hydrogen ion concentration on the growth-rate and structure of bacteria. Two papers on the subject have been published: The Influence of Hydrogen Ion Concentration on the Motility of Bacteria, Jour. Bact., March, 1924; The Influence of Salt and Hydrogen Ion Concentration upon the Structure and Growth Rate of Vibrio Cholerae, Jour. Gen. Phys., April, 1924.

In collaboration with Dr. Little, a study has been made of aciduric bacteria, and a paper, A Case of Persistent Aciduric Flora in Man, published in the April Canadian Medical Association Journal.

During the last three years Dr. Reed, with the assistance of three students, has been making a bacteriological and

chemical study of lobster canning. This work has been undertaken on behalf of the Canadian Biological Board. An extended report under the title "A Bacteriological and Chemical Study of Lobster Canning, by G. B. Reed and D. J. McLeod, with the assistance of M. M. Lenz and E. A. Smith," will shortly be distributed as one of the publications of the Board.

In collaboration with the Eastern Dairy School, an examination was made of the cause of bitter cheese in Eastern Ontario. A report on the subject is being published by the Ontario Department of Agriculture.

Dr. James Miller describes the work of the Pathological Department as follows:

1. A case of Osteosclerotic Anaemia assisted by a grant for photographic material.
2. Further experiences with a method for mounting museum specimens with a minimum of fluid.

Both the above were communicated to the Boston meeting of the Association of American Pathologists, March, 1923, and are in proof at present.

3. The Pathology of Endemic Goitre.

Communicated to the Ontario Medical Association, Windsor meeting, June, 1923, and published in the Canadian Medical Association Journal, September, 1923.

4. The Kahn Precipitation Reaction in the Diagnosis of Syphilis with a new and improved method for reading the results, in association with Dr. Little. Transactions of the Royal Society of Canada, 1923.
5. Neuro-Fibromatosis with Epithelial Tumors in the Suprarenal Glands.
6. Chorio-Adenoma arising from a Hydatidiform mole with metastatic Villi in the lungs.

Both the above papers are on the programme of the International Association of Medical Museums, Buffalo meeting, April, 1924, and are illustrated by photomicrographs.

7. The Action of Dye Stuffs on Bacteria, delivered by Dr. Little. Post Graduate Lecture, Queen's University, March 21, 1924.
8. "Liver Atrophy," in the Quarterly Journal of Medicine, Vol. 17, No. 65, Oct., 1923, in collaboration with Dr. Andrew Rutherford of Edinburgh.

Professor J. K. Robertson gives the following brief account of his work:

1. Spectra of Ionized Tin.

During the summer of 1923, a considerable amount of work was done on this problem at the Imperial College of Science and Technology, London. A grant from the Research Committee for the purchase of a small quartz spectrograph has made it possible to continue this work at Queen's.

2. Value of Schwarzschild Constant for X-Rays.

In conjunction with Mr. J. T. Thwaites, a study of one aspect of the blackening of a photographic plate by X-rays is being made during the present session. This work is still in progress.

Professor Earl's work is described by him as follows: It is pretty definitely established that the chromosomes of cell nuclei are the carriers of hereditary character-determining particles. Their investigation is thus of the greatest importance. Their number for any given species is fixed. Thus in man it is 24 pairs. But while the species of a genus and the genera of a family have very many qualities in common, this property often does not apply to chromosome number. Thus in crepis, a genus of the chicory tribe, species are known with 3, 4, 5, 8 and 20 pairs respectively. In the poppies, we have such numbers as 7, 14, 21 and 35 pairs. There is evidence to indicate that new species have in some cases arisen through polyploidy or the formation of multiples of a basic number.

Chromosome investigation, especially as to number, may best be undertaken with a genus where the basic number is low, where species are numerous, and where interspecific hybrids may be obtained. Such a genus is crepis.

Work has been undertaken to determine the mode of inheritance of certain qualities in Crepis japonica and promising indications were obtained. Owing to the small size of the flowers in this species and the consequent great difficulties in controlling pollenation, attention has now been directed to five other species with larger flowers and lower chromosome numbers, with the hope of obtaining hybrids between species.

It is to be hoped that measures will be taken to regulate the temperature of the green-house, or that a new one may be provided. Temperature fluctuations at present make it almost impossible to grow anything but desert plants in it.

Professor A. B. Klugh's work is briefly described as follows: The pure cultures of unicellular green algae set up last year have been kept growing, and examination of these at intervals has shown that some of these forms are unquestionably autonomous, and not merely stages in the life-cycle of some other form.

Experiments on cultures, sub-cultured from one of the above by Dr. Reed and Professor Klugh, have yielded some very interesting results as to the influence of differences in salt concentration and potential hydrogen on the form of the algae. Algae derived originally from the same cell showed differences greater than those between many described species.

My own work on the Joule Effect in Gases is being pushed forward as rapidly as time will permit. With the assistance of Mr. W. V. Ball, the apparatus has been designed and is nearly ready for the preliminary trials.

The work on the Electrolytic Condensers was finished last summer and the results will be presented at the meeting of the Royal Society in May. They seem to show that the phenomena at the boundary of a metal placed in an electrolyte are very complicated and to indicate also that there is a distinct double layer of electricity at such a boundary. The capacity of such layers is enormous and by means of them used with

inductance coils, oscillations may be set up and studied. These were studied by means of the Einthoven galvanometer belonging to the General Hospital, without which the work could not have been done.

The work on the Viscosity of Ether Vapor near the Critical Temperature is nearly finished, and it is anticipated that the middle of the summer will see it completed. Interesting theoretical points are coming out that should furnish information concerning the passage of a liquid into the vapor state.

Mr. D. C. Rose carried out, with the assistance of Mr. Percy Lowe, an investigation of the Intensities of the Spectrum lines of Argon. This was carried out by the method developed by Professor Hughes and applied to the gas helium. Mr. Rose has held a bursary granted by the Honorary Council for this research. It is a very creditable piece of work. A brief report is given as follows:

A quantitative measurement has been made of the variation in the intensity of 50 Argon lines, excited by electronic impact, as the energy of the exciting electrons varied from 24 to 140 volts. The apparatus consisted of a large three-electrode tube through which pure argon was continually passed at a constant low pressure. A constant current was maintained between filament and plate; the grid and plate were kept at the same potential, and the spectrum of the gas in the field-free space between these photographed. For measuring intensities, the neutral wedge method was used. The results show a division of the argon lines into two main classes corresponding in general to the red and blue spectra. Those in the latter class first appear at slightly over 40 volts, increase rapidly to a maximum at about 65 volts, then decrease slightly and remain fairly constant at higher voltages. The lines of the red spectrum are subdivided into two groups, in one of which the intensity decreases steadily above 30 volts, and in the other after small variations at low voltages it remains practically constant.

Professor Jemmett has made considerable progress in his research on the radiation of energy from wireless antennae. He is planning to make a brief investigation of the accuracy of induction type watt-hour meters with rectifier loads.

Professor D. S. Ellis describes the research of the hydraulic laboratory as follows:

Work has been done in examining the losses resulting from flow round an elbow in a six-inch pipe, and the distribution of velocities in the pipe following the elbow. From this work some rather interesting results have been obtained showing the relation between the reading of a pitot tube and the angle at which it is inclined to the current which is also being investigated. A study is also being made of the flow conditions characteristic of submerged weirs, which was first described by Bazin, but since his time apparently has not been carried further.

Of course none of these problems is yet completed, but the results obtained by each group working on them are being preserved together with their conclusions, so that it is hoped in the course of two or three years data will be available on these and other such problems which will permit a fairly complete discussion and which may perhaps be of permanent value.

In the Department of Chemistry there has been a greatly increased number of graduate students working on various lines of research as follows:

Mr. S. H. Carsley, who is a candidate for the Master of Science degree, is working under the direction of Mr. Dorrance on the Preparation of Some Per Salts.

Messrs. R. H. Manske and W. H. Vining are doing work under Professor McRae for the Master of Science degree, and both these men are holders of bursaries from the Honorary Advisory Council.

Mr. C. Sanford, who is a candidate for the Master's degree, is working under the direction of Mr. Cadenhead on the Preparation of Titanium Alloys.

Mr. R. G. Corneil is working under a National Research Council bursary on Laws of Absorption of Vapours by Liquids. This work is under the direction of Professor Goodwin.

The following researches were carried out under Professor Goodwin's direction:

Mr. W. E. Patterson, an undergraduate, is working in spare time on the Rate of Absorption of Nitrogen by Calcium Carbide to Form Cyanamide, and the Influence of Certain Salts.

Aided by a grant from the University Research Committee, a research was completed last year, with the aid of Mr. K. L. McAlpine. The results embodied in a paper entitled, The Causticising Equilibrium at Low Concentrations, are being prepared for publication in the near future.

Mr. Cadenhead reports that work this year has been done on the preparation, electrolytically, of an alloy of Titanium with aluminum. This work was undertaken in connection with Mr. Sanford. No definite results are available to date.

Two short papers by Mr. Cadenhead and Mr. Vining, on phases of the work done during 1922-23, have been published.

1. Note on the Preparation and Solubility of Manganese Acetate. Can. Chem. & Met., p. 64, March, 1924.

2. Note on a Reversible Colloid of Iron. Can. Chem. & Met., p. 65, March, 1924.

The following is a partial list of the researches projected for the coming year. This list is getting larger and longer each year:

Dr. Reed will extend, during the coming summer, the investigation on the influence of controlled physical and

chemical conditions on the structure of bacteria, to the diphtheria bacillus. This has been in progress for some time.

Professor Robertson will continue work on the Spectra of Ionized Tin, a problem begun at the Imperial College in the summer of 1923. Further work on the Electrodeless Discharge in Gases and Vapours is also planned.

Mr. Ball—Continuation of the Resistivity and Temperature Co-efficient of India Ink and other Allied Substances of High Resistivity to determine whether these substances obey Ohm's Law.

Dr. Clark, with the assistance of Mr. Ball, will continue the investigation on the Joule Effect in Gases.

Professor Earl—Investigation on Crepis Japonica.

Professor Klugh—Food Relations and Culture of the Entomostraca; Polymorphism in the Chlorophyceae; Light as a Biotic Factor.

Professor Jemmett—Investigation of theAccuracy of Induction Type Watt-hour Meters with rectifier loads.

Mr. Cadenhead—Continuation of the electrolytic Preparation of Alloys of Titanium with Aluminum, Magnesium, etc., extending it to Ti-Mg, and other pairs.

Professor McRae—Continuation of the Work of Mechanism of the Condensation of Active Methylene Compounds with Aldehyde and Ketones; The Properties and Reactions of Substituted Succinic Acids.

Mr. P. Lowe—Continuation of the investigation of the Intensities of the Spectrum Lines.

Some of the lines of work mentioned in this list are very important and sure to bring important results if the effort can be continued long enough. Scientific research requires time for results to appear. Technique, the accumulation of

information, and its application, require years to develop, but only by such painstaking acquirement of these absolute necessities can a research tradition and atmosphere develop. The results to date, however, are noteworthy and the men contributing to the research work at Queen's deserve credit for their efforts.

Respectfully submitted,

A. L. CLARK.

REPORT OF THE DEAN OF WOMEN

There have been in attendance this year 270 women students, of whom 186 had been registered previously as intra-mural students, 62 were new girls doing University work for the first time, and 22 had been extra-mural students until this session. During the session eight women students withdrew, one because she finished the work for her degree at mid-year, two because of ill health, three on account of illness at home, and two special students because of change of plan. The number of women students slowly increases from year to year.

Of these 270 women students,

80 were Kingston girls living at home.
22 lived at Avonmore.
16 at Earl Street Residence.
16 at the Kingston Y. W. C. A.
7 at 193 Johnston Street
6 at 97 Frontenac Street.
5 at 69 Arch Street.
4 at 137 Union Street.
4 at 273 Earl Street.
4 at 153 Frontenac Street.
4 at 140 Bagot Street.
4 at 73 Lower Alfred Street.
3 at 395 Brock Street.
3 at 248 Barrie Street.
3 at 217 Division Street.
3 at 158 Earl Street
3 at 138 Division Street.
3 at 176 University Avenue.
3 at 332 Johnston Street.
40 in 20 houses accommodating 2 each.
23 in 23 houses accommodating 1 each.
8 with relatives or family friends.
6 non-residents of Kingston left during the year.

Total, 270

The general health of the girls has been good, and there have been few cases of illness requiring hospital treatment. Two out-door skating casualties—a broken wrist and a broken ankle—and three operations for appendicitis were the most important of the hospital cases, and these girls all returned to their classes after short absences. Two girls were unable to continue their studies because of illness and went home. There have been no epidemics.

The women students very much regret the resignation of Miss Edna Chown as Physical Directress. They have enjoyed the class work under her tutelage, and she has aroused and sustained great interest in the various sports. The Physical Directress will doubtless find her class work monotonous from her own point of view until it is extended so as to include all the girls rather than first-year students only, as at present.

A careful investigation of the mid-year examination results for the past three years has shown each year that not so large a percentage of women students as of men students fail in these examinations, and in general the standard of scholarship among the women is certainly as high as that of the men. This year the travelling Fellowship of $500 has again been won by a woman student, Miss Stella Campbell; and of the two Arts Research Resident Fellowships of $250 each, Miss Frances MacCallum received the only one awarded.

Levana's new departures have all proved successful during the past winter. The second Levana Dinner, at which practically all the girls were present, was splendidly managed and greatly enjoyed; the second women's number of the *Queen's Journal* received many enthusiastic compliments; the second year of the Women's Debating Club has shown that the girls needed such an organization and are improving the opportunity it offers them; and the masquerade party given in honour of the Freshettes last autumn instead of the abolished initiation was pronounced by all present a happy innovation.

CAROLINE E. McNEILL.

REPORT OF PHYSICAL TRAINING—SEASON 1923-24

As requested, I am giving a report on the activities connected with physical training for the season now closing.

Advanced thinkers in the realm of college education have for many years considered it necessary that physical training should go hand in hand with the other courses of the College curriculum.

The scheme as affecting our University provides a minimum of two periods of exercise per week, and this applies to all first year students who attend the University.

The course begins with a careful examination by the medical adviser, who determines the fitness of the student, detects defects and provides an intelligent foundation on which to base advice and instruction. It is surprising how many students have some marked physical defect, such as the broken down arch of the foot, the flat chest and round shoulders, or the drooping shoulders and curved spine, the dull hearing and faulty sight, which often have been the unsuspected cause of headache, irritability and exhaustion.

It is the province of the Department of Physical Education to bring this defective physique up to normal and to provide the student with enough exercise of the right sort to put and keep him at the highest level of physical efficiency.

A course of exercise of progressive difficulty is given for the average man who is neither sub-normal like the defective, nor super-normal like the athlete; who has neither the desire nor the ability to represent his University upon the Track or Field, but, who nevertheless wishes to keep physically fit. Two objects must be kept in view in the outline of such a course; the correction of those physical habits that come with the student's sedentary life, and the systematic education of those bodily powers that will be of most use to him during his college life and after graduation. The cultivation of physical intelligence and the proper way to balance, jump and dodge is

valuable in that it teaches a man to escape injury in the many emergencies of life. These fundamental actions of locomotion are best taught in the Gymnasium, and games of all kinds are brought into the scheme so as to afford the above training, and diversify the more set movements and drills which are necessary to the building up of muscular strength and activity. Gymnastic games are freely used to train every man to know his powers and limitations in all the activities of running, leaping and climbing, while no course would be complete that failed to recognize the educational value, physical and mental, of those athletic sports that cultivate courage and tenacity of purpose.

Dr. Currie had outlined a plan that would follow up his preliminary examination, but owing to his removal to Scotland the work was not completed, and so no vital statistics are obtainable.

The number of men who are prevented by a preliminary medical examination from endangering health or life, shows the value of precaution wherever the more violent forms of athletics are practised, for men with unsuspected lesions of the heart, etc., who have no place in the exhausting struggle of a game of football, often present themselves as candidates for athletic teams.

I have endeavoured to include some instruction in personal hygiene in all class work, and have taught students the accepted exercises followed in remedial work in connection with flat-foot, round and stooped shoulders, flat chest, etc.

Besides the supervision of health and the teaching of the students, there are unusual opportunities to promote original research in the problems of physiology and anatomy, that the Department of Physical Education could embrace.

The taking of certain measurements from time to time is useful to stimulate in the student a pardonable pride in his expanding chest and swelling biceps, but its particular value is to determine the proportions of the average student and

his variation from this average. I am hoping that in the near future we may be able to further extend the department so that these matters of vital interest may be tabulated.

The attendance in Arts, Science and Medicine has been very satisfactory and regular. Following the custom of previous years the freshmen who were able to find a place on the accredited Rugby and Hockey teams of the University were given equivalent credit whilst engaged in those sports. Thirty Arts students, six Medicals and four Science students elected to take O.T.C. in lieu of Gymnasium work, but seventy-five per cent. of these came to Gymnasium classes also. We have had keen competition in Inter-year and Inter-faculty basketball, and also the honor of winning the senior Intercollegiate Basketball Cup. We have promoted and carried through successfully several indoor track meets, where everyone had a chance to try out in the various events, in the hope of securing material willing to train for the Intercollegiate Track Meet that comes next year to Queen's.

Our Boxing, Wrestling and Fencing team, though outclassed by our rival Universities, put up a good showing when the age and experience of our opponents is taken into account.

We cannot hope to offset the immense advantage possessed by Toronto and McGill until we provide our teams with more competition in their preliminiary work, than is now possible with our limited student talent. In Montreal, for instance, the McGill team fought nine battles each before going through the City Championship.

However, we have the spirit that counts and every man is anxious and willing to train to help land the championship.

The Gymnasium classes for the members of the staff have been carried on throughout the session, and we would be very pleased to have a much larger attendance on Tuesdays and Thursdays.

Some equipment to replace that originally purchased eighteen years ago is required and has been requisitioned

for under separate cover. The question of providing additional Gymnasium accommodation is one that will soon have to be seriously discussed.

At the present time there is a serious clash between Gymnasium activities owing to having only one floor with no rooms for the special work of boxing, fencing, etc., nor, for the matter of corrective work which is much better done away from the constant noise of the main exercise floor with its succession of classes. The demands of the women, too, for more hours in the afternoon make it imperative that some scheme be evolved to allow more practice hours for those engaged in special work, if we are to be serious contenders in Boxing, Wrestling and Fencing, Basketball, and purely indoor athletics.

Trusting that this report will be satisfactory.

Yours very truly,

JAMES G. BEWS.

REPORT OF WOMEN'S BRANCH OF PHYSICAL EDUCATION

The medical examinations were carried on as usual at the beginning of the session and 85% of the girls were found to be fit for the regular gymnasium work. Quite a number required Corrective Treatment and received this in special classes to enable them to have individual attention. These classes were well attended and showed very satisfactory results at the end of the session. Volunteer classes were also held once a week for students who had completed their regular work.

A greater interest was shown in all branches of sport this year and a larger number took part in all the games. Ground hockey, which is becoming more popular all the time, was played three times a week until the middle of November, when basketball began. The competition was keen in the Interyear Basket Games, and a three-cornered tie added incentive to the play-off for the championship. The basketball squad worked hard for the Inter-collegiate meet, which was held at Queen's, and at which Varsity carried off the championship.

Levana entered the Ice Hockey Team for the first time in the Intercollegiate League with Varsity, and though they were unable to defeat Varsity, were proud of the showing their team made. The first game was played in Toronto and the return match was here. This was Varsity's fourth year in the League, and the game with Queen's was the hardest they had had. The girls have great hopes for next year.

Indoor Baseball was started this spring and two teams were formed to have an inter-year competition. An Informal Athletic Meet, Freshettes versus Upperclassmen, closed the session.

EDNA CHOWN,
Physical Instructor of Women.

QUEEN'S UNIVERSITY CONTINGENT
CANADIAN OFFICERS' TRAINING CORPS

The examinations for certificates "A" and "'B' were held in March, 1923, but the results were not received until June, 1923, and therefore, could not be included in the report for that year. The results were highly gratifying. In all fifty (50) certificates were secured—11 for "B" and 39 for "A". Certificate "A" qualifies for rank of Lieutenant in the Canadian Militia, and certificate "B" for the rank of Captain.

For the training season 1923-24, no less satisfactory results are expected. There were in March, 1924, forty-five (45) candidates for certificate "A" and fifteen (15) for certificate "B", and it is thought that the numbers passing will exceed those of last year.

Nearly $2300 was received from the Militia Department for pay and allowances, of which over $2000 was disbursed in pay of officers and cadets, the remainder being used for expenses. There is a balance in the bank of $135.96.

Ninety students were trained during the session. Thirty-six parades were held. The prospects for the coming session are very good. The organization is a battalion, consisting of two companies.

The officers for 1923-24 were:

Headquarters—

Col. A. Macphail, Officer Commanding.
Lt. J. C. Macgillivray, Adjutant.

"A" Company—

Major E. W. Skinner.
Capt. H. Spencely.
Lieut. J. A. Hannah.
Lieut. E. O. Fleming.
Lieut. E. A. Revelle.
Lieut. C. R. Salisbury.

"B" Company—

Lt. Col. P. G. C. Campbell.
Capt. J. H. McMillan.
Lieut. H. S. Mitchell.
Lieut. F. G. Keyes.
Lieut. T. T. Samis.
Lieut. W. B. Thompson.

THE FIFTH FIELD COMPANY C. E.

The Fifth Field Company Canadian Engineers is one of the engineer units of the active militia of Canada. It is recruited entirely from the staff and students of the Faculty of Applied Science at Queen's. Training for nine days or their equivalent in time is carried out during the fall and winter terms, and consists of instruction in drill tactics, engineer duties, interior economy, etc. Besides the ordinary training for the requirements of the militia inspection, classes are held to prepare any of the members of the company who wish to write the examinations for A certificate under O.T.C. regulations, which are held early in March of each year.

In 1923 twenty-nine wrote on the O.T.C. examinations and nineteen passed in the infantry part, while five others qualified in both the infantry and engineer parts of A certificate.

In 1924 sixteen wrote on the infantry part and four on the engineer and infantry, while ten wrote the engineer paper alone, having qualified in the infantry last year.

It will be noted that this is the only unit in Canada which trains men for commissions in the engineers, and it is one of two among all the universities in the Empire.

The strength at present is 54 all ranks.

The officers are as follows:

Lt. Col.—D. S. Ellis, D.S.O.
Capt.—Arthur Jackson.
Lt.—H. B. Hanna, Sc. '24.
Lt.—G. D. Furse, Sc. '24.
Lt.—E. H. Bronson, Sc. '24.
C. S. M.—H. A. D. Minter, Sc. '25.
C. Q. M. S.—J. Millar.

D. S. ELLIS.

REPORT OF ATHLETICS, 1923-24

The following is a list of the members of the Athletic Board of Control, Queen's University, for the session 1923-24:

Chairman—Mr. H. B. Hanna (President Alma Mater Society).

Principal—Dr. R. B. Taylor.

Representative of Senate—Mr. J. Richardson.

Representative of Trustees—Mr. J. M. Farrell.

Representatives of Alumni—Dr. W. L. Grant, Dr. Dennis Jordan.

Staff Representatives—Prof. M. B. Baker, Prof. W. L. Malcolm.

Student Representatives—Mr. P. A. McLeod, Mr. R. G. McKercher, Mr. J. E. R. Smith, Mr. Frank Leadley.

Secretary-Treasurer—Mr. J. S. McDonell.

Director of Gymnasium—Mr. J. G. Bews.

In presenting this statement of athletics during the session just closing it is felt that gratifying results have been obtained.

Rugby.

The attainments of the Queen's teams on the Rugby field are so well known as to need little description here; however it might be well to embody in this report a record of the games played, the scores made, and the championships gained. The senior Rugby team of Queen's won every game in which they took part.

Queen's v. McGill—Result, Queen's 24, McGill 3.
Queen's v. Varsity—Result, Queen's 9, Varsity 3.
McGill v. Queen's—Result, Queen's 19, McGill 3.
Varsity v. Queen's—Result, Queen's 18, Varsity 5.

Queen's v. Ottawa—Result, Queen's 12, Ottawa 0.
Queen's v. Argos—Result, Queen's 9, Argos 4.
Tigers v. Queen's—Result, Queen's 13, Tigers 5.
Regina v. Queen's—Result, Queen's 54, Regina 0.
Total points scored, 158, against 23.

These games resulted in Queen's winning the Dominion Rugby Championship and the Senior Intercollegiate Rugby Football Championship.

The Intermediate Rugby team was eliminated from the Intermediate Intercollegiate series only after two stirring games with the Royal Military College team. This same R. M. C. team went forward and ultimately won the Intermediate Rugby Championship of Canada, They were only beaten once and that was by the second team of Queen's University. Much credit is due the second team for their splendid efforts in backing up the senior team in practice and in actual games.

The third team, after eliminating the R.M.C. seconds from the Junior Intercollegiate series was, in turn, beaten by the junior team from University of Toronto. The junior team succeeded in defeating Varsity in Kingston but was defeated in Toronto and lost on the round.

Teams representing practically every year took part in a series of games which led up to the inter-faculty series. The Inter-faculty Rugby Championship this session was won by Medicine.

Tennis.

The tennis courts within the University grounds are in almost continual use during the session of the Summer School, and from the time the regular session starts until the weather becomes too cold. Queen's entered four plays in the Intercollegiate Tennis series in 1923, and whilst not successful in bringing back the championship, all these players gave splendid exhibitions. It is intended to build three or four hard-surface courts this year so that our tennis players may havc

the same advantage in practice as is enjoyed by players at McGill and Toronto.

Track.

At the Intercollegiate Track Meet held at University of Toronto, Queen's was successful in winning one event and securing second place in two other events. Interest in track sports seems to be very keen, and, as the Intercollegiate Meet will be held at Queen's this coming session, we are looking forward to increased interest in this direction.

Basketball.

This past session has seen basketball brought very much into the limelight as a major sport. For the first time in history Queen's has won the Senior Intercollegiate Basketball Trophy. Varsity and McGill were beaten after splendid games, and, in an exhibition game, the famous West End Y. M. C. A. team of Toronto, Dominion Champions, was beaten by Queen's. The second team also made a splendid showing in the eastern section of the C.O.B.A., winning the championship of this section by its victories over Belleville and Peterboro.

During February the Women's Intercollegiate Basketball series was held on our gymnasium floor. This series was won by Varsity girls, although Queen's girls put on a good exhibition against their heavier and more experienced opponents.

The very large crowds who have attended the games in our gymnasium and the great interest taken in inter-faculty basketball all tend to emphasize the growing interest that is being taken in this game.

Hockey.

Commencing the season with a tour into the United States, during which not a match was lost, the Queen's Senior Hockey team started the Intercollegiate Hockey schedule with a win over University of Montreal. Playing against Varsity the Queen's team, although defeated by the odd goal, played one of the finest games seen here for some time. Queen's finished the Senior Intercollegiate series in second place.

The Intermediate team competing in the local group of the Ontario Hockey Association was responsible for some excellent hockey. Brockville was beaten twice and Frontenacs once. The second team lost the group to Belleville only after very close battles. The same Queen's team was entered in the Intermediate Intercollegiate series, and, in the first games against R. M. C. lost the first and won the second, losing the round by a small margin.

The third team, after starting the season rather tamely, suddenly showed real form and caused a tie-up in their group. In the end the group honours went to the local Circle-Six club. The junior team played some nice hockey, and as the members will all be together again next year, we are looking forward to the development of a winning junior team.

It is with regret that we have to record the destruction by fire of our fine "Jock Harty Arena" on the morning of February 29th. This splendid home of our winter sports, raised as a memorial to one of Queen's most outstanding athletes, and one of the finest hockey rinks in Canada, was the scene of many stirring games. Its unfortunate destruction will only spur us on in obtaining for Queen's another arena which we hope will be equipped with an artificial ice installation.

The unfortunate destruction of the "Jock Harty Arena" was responsible for the premature termination of the interfaculty hockey series. However, some very fine games were played in this series, and no team was in the lead when the fire put an end to the series for this year.

Wrestling, Boxing and Fencing.

Assaults were held in the Gymnasium and in Grant Hall previous to the Intercollegiate meet at McGill. Queen's representatives, admittedly at a disadvantage owing to lack of practice opportunities, were unable to carry off even one event at the Intercollegiate meet. However, the experience gained at the Intercollegiate meet, togther with that gained at our local assaults, resulted in our being able to put up a truly creditable

exhibition against the Yale University team, which visited us on March 29th. Queen's was successful in winning the heavyweight bout and in forcing a tie in the 150-lb. class. The men who wear the Queen's colours in W., B. & F. are all young men who will be with us next year, and with the experience they have gained this session we are looking forward to much better results at the next Intercollegiate Assault-at-Arms.

In looking back over college athletics for the session 1923-24 we can well pride ourselves on the fact that, whether on the football field, the track, the court, the ring, or on the ice, the athletes of Queen's have perpetuated the Queen's spirit. They have played the game, and whether they won or lost they have played it manfully. It is truly felt that this session the prowess of Queen's in athletics has advanced beyond the stage previously reached.

JOHN S. McDONELL,
Secretary-Treasurer, Athletic Board of Control, Queen's University.

REPORT OF ALMA MATER SOCIETY

The Society held regular weekly meetings throughout the session 1923-24, except on two occasions when the necessary quorum was lacking. Generally the attendance has been decidedly poor, yet the Society has had a most successful year and, with the rather drastic changes which have been made in the constitution, there should be a smoother path ahead for the coming Executives and more general satisfaction for all having dealings with the Society.

The three most outstanding changes made were the re-organization of the Society upon a representative basis, the re-organization of the Supreme Court after a more up-to-date system, and the revision of the constitution regarding formal dances and dinners.

Under the new organization of the Society the Executive remains fundamentally the same, but the general meetings of the Society are replaced by a Council made up of Faculty groups—one representative for each forty members or part thereof in the Faculty, and presided over by the Speaker. The heads of all Standing Committees are ex-officio members of the Council, while the Executive members have all Parliamentary privileges at the Council meetings except that they have no vote. It is felt that this small delegated body will give a better cross-section of student opinion and prove more efficient than the system which has been discarded. Provision has been made for the calling of a general open meeting of the Society upon petition of fifty members and the Annual Meeting of the Society will be open.

The reorganization of the Court makes it an elected body instead of consisting of the Executive members as formerly, and provides for a trial either by Judge or Jury, whereas previously there was no provision for any condition which did not require a Jury. This is a good step towards restoring the Courts—both Alma Mater and Faculty—to a more active and respected position.

The alterations in the Social Functions regulations make constitutional certain privileges which for years had been adopted in violation of the constitution in that regard, and make it much easier to enforce compliance with the regulations.

Social Evenings throughout the session have been quite prominent, but the committees in charge have at all times kept within the restrictions imposed by the regulations.

The Medical Health Insurance scheme has also been revised with a view to avoiding the deficit which the University has been annually forced to meet.

The annual elections of the Society were most keenly contested and resulted in an almost complete landslide, Science-Medicine having only two successful candidates. For the first time in the history of the Society a member of Levana holds the office of 2nd Vice-President.

The Society has co-operated with the Athletic Board of Control in procuring suitable souvenirs for the members of the Senior Rugby team—Intercollegiate and Dominion Champions—and the Senior Basketball team, Intercollegiate Champions.

The Debating Committee also brought honors to the Society by winning the Intercollegiate Debating Championship. Both sides of the team were successful in each of the two debates.

The Dramatic Club's presentation of its annual play, "The Man who Married a Dumb Wife," this year in the Allen Theatre, was most successful, while the College Frolic Committee quite lived up to all expectations.

The Journal, under most efficient management, has had another very successful season and is in a most favorable financial condition for next year.

During the session Mr. W. H. Coverdale was elected Rector of the University in succession to Hon. A. E. Ross, M.P., whose term of office had expired.

The financial condition of the Society has been much improved and it is hoped that the next Executive may not have a deficit to meet. Also more judicious spending of money may be expected under the new system of administration of the Society's business.

The initiations under the new scheme were not entirely satisfactory. The general tendency was too much towards the ridiculous. Also infractions of the regulations were dealt with, rather by the enforcing years than by the Faculty Courts as intended. It is hoped next fall that this may be avoided by the Alma Mater Society holding the Faculty Societies strictly responsible for the actions of those enforcing their regulations, and that the initiations may become something which will really inculcate in the freshmen, as such, something of the spirit of Queen's and respect for its institutions, that student self-government may be made a real live factor of University life thus accomplishing its purpose and justifying its continued existence.

H. B. HANNA,
President.

QUEEN'S UNIVERSITY ALUMNAE ASSOCIATION

1923-24

Since the last report to the University, the various activities of the Association have progressed in a decidedly satisfactory manner. The paid-up membership was reported at the Easter Executive meeting to be 252, the highest ever attained. All accounts are paid and there is a bank balance satisfactory to the Treasurer. On November tenth the annual meeting and dinner were held, and it was with distinct pleasure that we listened to the addresses of our dinner guests, Mrs. Walter Vaughan, President of the Federation of Canadian University Women, and Miss Margaret Strong, Labor Bureau, League of Nations, Geneva. The girls of the graduating class were also dinner guests of the Association on this occasion. The semi-annual meeting took place in Toronto on July ninth, when at a dinner in the Queen's Hotel Professor Jolliffe addressed the Alumnae.

The Alumnae News, with a directory carefully compiled, goes to all paid-up members. In the last edition Mrs. John Macgillivray's report of the Building Committee was presented in full, and in order that this matter might reach all Alumnae, twelve hundred extra copies of the report were printed and sent to all women eligible for membership in the Association. Mrs. Macgillivray's arduous task as convener of this committee is one on which the Association puts a great estimate of value.

The Earl Street Residence is being continued, while the lease on the Avonmore expires in 1925, when it is hoped the girls may be transferred to the Goodwin House.

The activities of the Association have to step aside and give first place to the great aim of many years, the building of the Women's Residence, the corner-stone of which was "well and truly laid" on the afternoon of November 10, 1923, by

Dr. A. E. Marty, first convener of the Residence Committee. The giving of a name to the Residence was perhaps not so ceremonious a proceeding as the laying of the corner-stone, but Ban Righ Hall speaks the unanimous choice of the Association, and it is hoped meets with general favour.

In December, 1923, the lowest tender for the Residence being $15,000 above the combined funds of the Trustee Board and the Alumnae Association, the following resolution was passed by the Executive on January 12, 1924, and forwarded to the Chairman of the Trustee Board: "That the Executive recommend that the building of the Residence be proceeded with at once, on the basis of contract being awarded to lowest tender of December 12, 1923, the Alumnae Association assuming responsibility of raising the additional sum required. The Executive also recommends that the contractors be asked to insert an alternative clause in the contract, stating the cost of erecting the building with concrete floors and framing, on the understanding that the Association will advise within a time specified by the successful contractor, on which basis they will finally proceed."

On January 24, 1924, the President and Secretary met with the Finance and Estates Committee, who while expressing appreciation of the Association's records, yet stressed the fact that the extra amount must be on hand or in sight before the signing of the contract. Accordingly, as a guarantee bond was the only basis of discussion acceptable to the Finance and Estates Committee, in acceptance of this condition friends of the Association have signed a guarantee for $15,000, which has been delivered to the Trustee Board, and the discharging of which by May, 1925, will be the effort of the Association. A considerable sum is already on hand; the contract has been signed, the successful contractors being the A. J. Dickie Construction Co., Toronto.

Dr. Marty's Committee on Residence Administration has been enlarged and instructed to go into all the questions of administration in detail.

A Fellowship Committee has been appointed and asked to report at next annual meeting.

Ottawa and Montreal have, since the beginning of the year, formed branch associations, making with Toronto and Kingston, four fully organized groups of Alumnae who, under the forceful leadership of Miss Whitton, resolutely face their task, well satisfied that the result will be worthy of their courage and vision.

ADA BIRCH, Secretary.

LIST OF PUBLICATIONS OF THE STAFF SINCE MARCH 31st, 1923.

Professor Henry Alexander: The American Language. Queen's Quarterly, June, 1923.

A Sidelight on Eighteenth Century American English. Queen's Quarterly, Dec., 1923.

Common Faults in Writing English (New edition). The People's Books.

Professor L. M. Arkley (in collaboration with Professor Wilgar): Description of the new Central Heating Plant of Queen's University and Kingston General Hospital. Journal of the Engineering Institute of Canada, November, 1932.

Professor L. J. Austin: Address on Surgery to Ontario Medical Association. Canadian Medical Journal, 1923.

Professor E. L. Bruce: Iron Formation of Lake St. Joseph. 31st Annual Report, Ontario Department of Mines, Part VIII, p. 1-32.

Eastern Part of Lake St. Joseph. 31st Annual Report, Ontario Department of Mines, Part VIII, p. 33-38.

Area South of the West End of Lake St. Joseph. 31st Annual Report, Ontario Department of Mines. Part VIII, p. 39-40.

Mr. A. F. G. Cadenhead (in collaboration with Mr. W. H. Vining): Note on the Preparation and Solubility of Manganese Acetate. Canadian Chemist and Metallurgist, p. 64.

Note on a Reversible Colloid of Iron. Canadian Chemist and Metallurgist, p. 65.

Professor P. G. C. Campbell: L'Epiture d'Othéa, étude sur les Sources de Christine de Pisan. Champion, Paris, 1924.

Professor J. R. Currie: Louis Pasteur. Queen's Quarterly, Dec., 1923.

Professor C. W. Drury: Cobalt. Mineral Industry, Vol. 31, 1923.

Cobalt, Its Production and Uses. American Electro-Chemical Society, Vol. 44, 1923.

Recovery of Metal from Slag by Flotation. Mining and Metallurgy, Vol. 4, 1923.

Professor R. O. Earl: Survey of Biological Literature. Queen's Quarterly, vol. XXXI, No. 2.

A review of Täckholm, Gunnar. "Zytologische studien über die Gattung Rosa." Acta Hortibergiani 7:97-381, 1922, in Botanical Gazette, Vol. LXXVI, No. 2.

A review of Martens, Pierre. "Le cycle du chromosome somatique dans les Phanérogames I. Paris quadrifolia, L." La Cellule 32:331-428. In Botanical Gazette LXXVI, No. 3.

Professor L. F. Goodwin: The Education of a Chemical Engineer; a paper read before the Ottawa Section of the Society of Chemical Industry. Canadian Chemistry and Metallurgy, March, 1924.

Professor J. A. Gray: Note on Secondary X-Rays. Transactions Royal Society of Canada, May, 1923.

The Transformation of Electronic into Electromagnetic Energy. Nature, June 30th, 1923.

The Scattering of X-Rays. Physical Review, February, 1924.

Professor W. G. Jordan: Ancient Stones and Modern Life. Queen's Quarterly, June, 1923.

Professor A. B. Klugh: The Habits of Cucumaria Frondosa Canadian Field-Naturalist, April, 1923.

The Trail of the Sun. Nature Magazine, April, 1923.

The Life of the Sea-shore. Nature Magazine, April, 1923.

The Biological Stations of Canada. Canadian Fisherman, July, 1923.

A Common System of Classification in Plant and Animal Ecology. Ecology, October, 1923.

Notes on Eptesicus Fuscus. Journal of Mammalogy, February, 1924.

Dr. A. P. Knight: A Standard Pickle for Lobster Canning. The University of Toronto Press, 1923.

A Report Upon Lobster Canning. F. A. Ackland, Printer to the King's Most Excellent Majesty, Ottawa, 1924.

Professor J. O. Lofberg: Some Athenian Traits in American Politics. Classical Journal, XVIII, 9, 520-534 (June, 1923).

Professor H. R. MacCallum: Fascism and Italian Welfare. Canadian Forum, December, 1923.

Professor J. F. MacDonald: Longer English Poems (Byron, Tennyson, Browning, Arnold) for use in the Upper School of Ontario High Schools and Collegiate Institutes. Oxford University Press.

Literature and Life. Social Service Bulletin, Toronto, July, 1923.

The Poetry of A. E. Housman. Queen's Quarterly, December, 1923, pp. 114-138.

Professor G. J. MacKay: Gold Mining in Northern Ontario and on the Rand. Canadian Mining Journal, August 17th, 1923.

Developments in the Treatment of Non-ferrous Ores in Canada, in 1923. Canadian Mining Journal, January 4th, 1924.

Professor W. A. Mackintosh: Articles in Canadian Bankers' Journal, Queen's Quarterly, and Canadian Historical Review.

Professor James Miller: A Case of Osteosclerotic Anaemia Assisted by a Grant for Photographic Material.

Further Experiences with a Method for Mounting Museum Specimens with a Minimum of Fluid.

(Both the above were communicated to the Boston meeting of the Association of American Pathologists, March, 1923, and are in proof at present.)

The Pathology of Endemic Goitre. Communicated to the Ontario Medical Association, Windsor meeting, June, 1923, and published in the Canadian Medical Association Journal, September, 1923.

(This investigation has been and is being assisted by a grant from the Research Committee.)

The Kahn Precipitation Reaction in the Diagnosis of Syphilis with a New and Improved Method for Reading the Results, in association with Dr. Little. Transations of the Royal Society of Canada, 1923.

Neuro-Fibromatosis with Epithelial Tumors in the Suprarenal Glands.

Chronic-Adenoma Arising from a Hydatidiform Mole with metastatic Villi in the Lungs.

(Both the above papers are on the programme of the International Association of Medical Museums, Buffalo meeting, April, 1923, and both are illustrated by photomicrographs paid for by a grant from the Research Committee.)

The Action of Dye Stuffs on Bacteria. Post Graduate lecture delivered by Dr. T. R. Little, Queen's University, 21st March, 1924.

(This lecture was the record of research work assisted by a grant from the Research Committee for animals.)

"Liver Atrophy," in the Quarterly Journal of Medicine, Vol. 17, No. 65, Oct., 1923, in collaboration with Dr. Andrew Rutherford of Edinburgh.

Professor G. B. Reed (in collaboration with D. J. MacLeod): The Biology of Three Score Years and Ten. Queen's Quarterly, May, 1924.

The Influence of Hydrogen Ion Concentration upon the Motility of Bacteria. American Journal of Bacteriology, March, 1924.

The Influence of Salt and Hydrogen Ion Concentration

upon the Growth Rate and Structure of Vibrio Cholerae. Journal of General Physiology, May, 1924.

(In collaboration with T. R. Little): A Case of Persistent Aciduric Flora in Man. Canadian Medical Association Journal, April, 1924.

Professor J. K. Robertson: Intensity Measurements of Special Lines. Journal of the Optical Society of America, November, 1923.

Determination of the Schwarzschild Constant. Journal of the Optical Society of America, November, 1923.

X-Rays and X-Ray Apparatus: An Elementary Course. Journal of Radiology, April, May, July, September, November, 1923; January, February, March, 1924.

Professor James A. Roy: Sir Douglas Haig's Command, Queen's Quarterly, March, 1923.

Realism in Modern Poetry. Queen's Quarterly, June, 1923.

Realism in Modern Poetry. Queen's Quarterly, September, 1923.

Robert Fergusson—The Edinburgh of. Queen's Quarterly, March, 1924.

The Breaking of the Bridge (a One-act Play). Jackson Press, December, 1923.

Professor L. T. Rutledge: A series of articles of approximately 3000 words each, running weekly since Nov. 8, 1923, on "Machine Design and Analyses of Stress" in Canadian Machinery and Manufacturing News, MacLean Publishing Company, Limited, Toronto, of which journal the writer is Associate Editor.

The Douglas Library. Proceedings of the Engineering Society, Queen's University, 1924.

The New Residence for Women. Proceedings of the Engineering Society, Queen's University, 1924.

Technical Education and Vocational Training. A paper given at Urban School Trustees' Convention, held at Kingston, February 26th to 29th, 1924, and published by the Urban School Teachers' Association.

(In collaboration with H. Ryan, B.Sc.) : The Canadian Locomotive Company, Limited. Canadian Machinery, Annual Number, December 27th, 1923.

Dr. E. W. Ryan: The Psychoses of the Puerperal Period. A paper read at the meeting of the American Medical Association in Detroit in May, 1923.

The Mental Health of the Community. A paper at the Rotary Club, March, 1924.

Professor B. K. Sandwell: The Cityward Bias of Literature. Queen's Quarterly, October, 1923.

Return to the Gold Standard. Canadian Forum, March, March, 1923.

Dean Skelton: Articles in the Journal of the Canadian Bankers' Association, April, July, October, 1923, and January, 1924.

Principal R. Bruce Taylor: Unconscious Education.

The Use of Leisure.

(Papers given at the meetings of the Saskatchewan Education Association, held at Regina in April, 1923, and published in the Proceedings of that Association.)

Introduction to "The Book of Literature." The Grolier Society, Toronto, Ontario.

Mr. Nathan van Patten: Bibliography of the Corrosion of Metals and its Prevention. 186 pp., Published in July, 1923.

TREASURER'S REPORT

Financial Statement—April 1, 1923, to March 31, 1924

SUMMARY OF REVENUE AND EXPENDITURE

Total Revenue (all Faculties)		$501,931 65
Total Expenditure (all Faculties)—		
Educational	$322,028 70	
Administrative	179,796 28	
		501,824 98
Surplus		106 67

REVENUE

Income from Students :			
Intra-mural Arts		37,314 07	
Extra-mural		45,083 33	
Science		30,377 00	
Medicine		36,498 10	
Summer School		7,012 00	
Banking		4,471 15	
School of Navigation		65 00	
			160,820 65
Income from Investments :			
Mortgages		52,688 36	
Less expense of collection		2,856 51	
		49,831 85	
Bonds and other investments	81,664 32		
Less Bond expense	752 37		
		80,911 95	
		130,743 80	
Less Interest Deductions :			
Interest on overdraft	107 88		
Annuities Fund	4,125 00		
Library Funds	11,356 04		
Hospital Fund	4,258 80		
Scholarship Funds	6,853 60		
Douglas Chair	1,000 00		
Research Council	4 63		
Alma Mater Reserve	54 42		
		27,760 37	
			102,983 43
Income from Rents :		6,054 71	
Less expenses	491 44		
Less expenses (Residences)	234 51		
		725 95	
			5,328 76
Income from Government Grants :			
Ontario Government		210,000 00	
Dominion Government		1,000 00	
Dairy School Grant		1,200 00	
			212,200 00

Income from Other Sources :			
O'Briens Limited		7,000 00	
School of Navigation (Board of Education)		134 82	
Workshop Surplus		744 73	
Economics—Sale of Books		22 50	
Chartered Accountants		11,583 00	
Grant Hall rents		435 00	
Jubilee Interest Fund		60 00	
Cafeteria for heating	500 00		
Residences for lighting	118 76		
		618 76	
			20,598 81
			501,931 65

EXPENDITURE—EDUCATIONAL

Latin			
Salaries, Regular		$ 6,550 00	
Summer		480 00	
Supplies		70 77	
			7,100 77
Greek			
Salaries, Regular		6,350 00	
Summer		362 50	
			6,712 50
Hebrew			
Salaries		4,810 00	
Less Queen's Theological College		3,750 00	
			1,060 00
German			
Salaries		4,635 00	
Summer		323 50	
Supplies		6 36	
			4,964 86
French			
Salaries, Regular		9,775 00	
Summer		715 00	
Supplies		26 49	
			10,516 49
Spanish and Italian			
Salaries, Regular		3,810 00	
Summer		140 00	
Supplies		23 58	
			3,973 58
English			
Salaries, Regular		15,328 29	
Summer		962 50	
Supplies		35 53	
			16,326 32
History			
Salaries, Regular		9,205 00	
Summer		730 00	
			9,935 00

Economics			
Salaries, Regular		8,965 00	
Summer		843 50	
Supplies		83 15	
Statistical Service		682 74	
			10,574 39
Banking			
Salaries		2,966 38	
Presiding Examiners		1,972 52	
Supplies		3,359 54	
Office		1,501 23	
		9,799 67	
Less Bankers' Association	5,132 81		
Incidentals	32 22		
		5,165 03	
			4,634 64
Commerce and Administration			
Salaries		4,491 25	
Supplies		138 21	
Falconbridge Publication		39 86	
			4,669 32
Chartered Accountants			
Salaries		5,565 70	
Office		1,501 23	
Supplies		4,999 32	
			12,066 25
Philosophy			
Salaries, Regular		10,484 96	
Summer		360 00	
			10,844 96
Mathematics			
Salaries, Regular		14,810 00	
Summer		548 50	
Supplies		40 92	
			15,399 42
Physics			
Salaries, Regular		17,942 00	
Summer		878 50	
Supplies		2,692 52	
			21,513 02
Chemistry			
Salaries, Regular		21,498 93	
Summer		745 00	
Supplies		7,100 04	
			29,343 97
Biology			
Salaries, Regular		10,600 00	
Summer		816 24	
Supplies		821 49	
			12,237 73

Geology		
Salaries, Regular	4,902 50	
Summer	247 50	
Supplies	171 58	
		5,321 58
Chemical Engineering		
Salaries	3,641 00	
Supplies	1,158 82	
		4,799 82
Electrical Engineering		
Salaries	7,115 00	
Supplies	1,454 42	
		8,569 42
Civil Engineering		
Salaries	16,125 00	
Supplies	1,256 81	
		17,381 81
Mechanical Engineering		
Salaries	10,720 00	
Supplies	631 33	
		11,351 33
Mining and Metallurgy		
Salaries	13,637 54	
Supplies	3,192 23	
		16,829 77
Science salaries not distributed		1,800 00
Mineralogy		
Salaries, Regular	4,902 50	
Summer	215 00	
Supplies	433 47	
		5,550 97
Anatomy		
Salaries	4,435 00	
Supplies	1,076 26	
		5,511 26
Bacteriology		
Salaries	3,086 50	
Supplies	1,452 08	
		4,538 58
Medicine		
Salaries		9,000 00
Pathology		
Salaries	9,384 83	
Supplies	1,229 15	
		10,613 98
Physiology		
Salaries	8,319 40	
Supplies	677 48	
		8,996 88
Pharmacology		
Supplies		222 73
Surgery		
Salaries		8,362 50

Preventive Medicine		
Salaries	2,062 46	
Supplies	1 91	
		2,064 37
Medical Expense		
Not distributed above		454 32
Medical Salaries in other departments	7,620 00	
Less interest on Douglas Endowment	1,000 00	
		6,620 00
Art and Public Lectures		
Expenses	1,074 60	
Less Revenue	585 25	
		489 35
Arts Research		
Expenses		1,816 92
Science Research		
Salaries	2,786 64	
Supplies	2,292 76	
		5,079 40
Physical Education		
Salaries		3,330 00
School of Navigation		
Salaries	650 00	
Supplies	115 69	
		765 69
Summer School		
Salaries (including Director, $300)	5,525 00	
Supplies	384 80	
	5,909 80	
Less Salaries charged above to various departments	5,225 00	
		684 80
		$322,028 70

EXPENDITURE—ADMINISTRATION

Offices		
Banking Office—Salaries	$ 2,198 40	
Supplies	804 06	
	3,002 46	
Less transferred to Banking	1,501 23	
Less transferred to Accounting	1,501 23	
Carruthers Hall—Salaries	225 00	
Supplies	50 61	
		275 61
Dean of Arts—Salaries	1,152 65	
Supplies	243 57	
		1,396 22

Dean of Women—Salaries		840 00	
Supplies (Telephone)		32 04	
			872 04
Dean of Science—Salaries		1,601 16	
Supplies		507 17	
			2,108 33
Fleming Hall—Salaries		225 00	
Supplies		64 21	
			289 21
Gordon Hall—Salaries		578 00	
Supplies		267 93	
			845 93
Medical Laboratories—Salaries		745 17	
Supplies		197 17	
			942 34
Medical Office—Salaries		2,475 00	
Supplies		210 14	
Printing		345 21	
			3,030 35
Nicol Hall—Salaries		532 78	
Supplies		170 69	
			703 47
Principal's Office—Salaries		11,185 00	
Supplies		181 10	
			11,366 10
Office of Registrar and Treasurer—Salaries		18,790 44	
Expenses and Minor Supplies		1,183 14	
Stamps	5,988 00		
Less Supplies to other Offices	1,676 72		
	4,311 28		
Less Sale of Stamps	1,020 59		
		3290 69	
Printing	5,444 86		
Stationery	2,346 73		
	7,791 59		
Less Sale of Exam. Papers	96 43		
	7,695 16		
Less Stationery supplied other departments	1,124 18		
	6,570 98		
Sale of Scrap, etc	59 64		
		6,511 34	
			29,775 61

Buildings

(See Schedule A)

Janitors' Supplies	$ 776 09		
Repairs	4,055 63		
Expenses	3,538 69		
		8,370 41	

Janitors, Wages		8,303 50	
Night Watchman—Wages		979 00	
Carpenter—Wages		1,491 95	
Superintendent of Buildings—Wages		1,000 00	
Electrician—Wages	1,950 00		
Supplies	420 45		
		2,370 45	
Central Plant		33,239 47	
Sundry Repairs		2,241 58	
Fire Insurance		3,752 02	
			61,748 38

Libraries

University—Salaries	10,305 53		
Books, magazines, binding	6,085 04		
Expenses	414 96		
		16,805 53	
Medical Library—Books		1,119 00	
Science Library—Magazines and binding		1,078 84	
			19,003 37

Sundry

Advertising		1,638 31	
Annuities—Total Contribution	6,627 30		
Less Interest on Securities	4,125 00		
		2,502 30	
Contingencies		2,248 41	
Health Insurance (Schedule B)		965 70	
Nicol Hall, Interest		1,800 00	
Presiding Examiners		3,843 38	
Queen's Quarterly—Expense	1,840 20		
Less Revenue	1,050 28		
		789 92	
Travelling Expenses		2,431 16	
Taxes		5,870 51	
Commission and Exchange on Drafts		356 96	
Douglas Tutorships		691 50	
Grounds		2,943 03	
Tennis Courts		462 03	
Engineering Employment Service		1,000 00	
Avonmore Residence		250 00	
Earl Street Residence		250 00	
Written off Securities		15,374 38	
Alcohol		264 57	
Broadcasting Service		658 52	
Red Room Furnishings		100 00	
Dairy School Salaries		1,200 00	
Leonard Property (clearing and grading)		848 64	
Strathcona Memorial		650 00	
Football Trophies		300 00	
			47,439 32
			$179,796 28

SCHEDULE A

	Total	Janitor's Supplies	Repairs	Expenses
Carruthers Hall	240 46	41 47	62 52	136 47
Fleming Hall	630 31	111 23	349 38	169 70
Gordon Hall	1455 28	94 19	855 68	505 41
Gymnasium	2232 27		1205 58	1026 69
Medical Laboratories	855 33	155 99	57 46	641 88
Nicol Hall	679 73	28 35	146 50	504 88
New Arts Building	949 05	98 73	691 26	159 06
Medical Building	225 61	39 71	42 42	143 48
Ontario Hall	753 60	140 54	453 70	159 36
Observatory	73 82	1 50	26 02	46 30
Old Arts Building	223 31	64 38	152 73	6 20
Mill Building	51 64		12 38	39 26
	8370 41	776 09	4055 63	3538 69

SCHEDULE B

Health Insurance

Salaries		$1,293 55
Office expenses	$ 34 40	
Hotel Dieu paid	174 00	
General Hospital paid	266 75	
Reserved for unpaid accounts	2,500 00	
		2,975 15
		4,268 70
Less Income from Students		3,303 00
		965 70

SCHEDULE C

Khaki University and Y. M. C. A. Memorial Fund

Balance April 1, 1923		1,937 80
Interest		94 38
Repayments		1,627 50
Advances	1,159 00	
Balance	2,509 68	
	3,659 68	3,659 68

SCHEDULE D

Douglas Library Fund and Expenditures

Balance March 31, 1923		296,271 66
Add Interest	4,976 64	
Add Interest on Govt. Grants	6,379 40	
		11,356 04

Received from Ontario Govt.....		75,000 00
Expended for Construction	229,170 87	
Balance	153,456 83	
	382,627 70	382,627 70

Income

SCHOLARSHIPS

	Capital	Dr. Balance	Cr. Balance
Chancellor's Lectureship	5,000 00		
Roughton Prize			60 00
Rogers Prize			10 00
Mowat Prize			25 00
Prince of Wales	800 00	80 00	
Mowat	800 00		23 15
Watkins	1,300 00		624 50
Leitch	1,055 18		52 70
Cameron	1,000 00		490 00
Macdonald	1,500 00		987 50
MacLennan	500 00		40 00
Fowler	1,035 00		
Governor General's		150 00	
Maclennan	4,827 00		771 25
Nicholls	2,000 00		740 00
Chancellor's	5,000 00		800 00
Williamson #1.....	3,479 26		387 00
#2.....			545 00
Mackerras	1,919 20		877 00
Gowan Prize	900 00		90 00
Forbes McHardy	250 00		
Latin Prize			10 00
Wilson			25 00
McLaughlin			62 50
McDowall	692 00		125 00
Bell	1,000 00		350 00
Haydon	1,000 00		126 75
Lochead	1,000 00		30 00
Tadhope			120 00
Simcoe County	1,000 00		350 00
Dupuis	3,714 26		330 00
Sydenham High School.....	250 00		27 65
Nickle	1,000 00		150 00
Carruthers	5,500 00		250 00
Segsworth			100 00
Science '11		171 00	
Grant #1.....	10,751 33		725 00
#2.....			435 00
Mowat			200 00
Hoffman	35,000 00		
Malcolm	2,000 00	200 00	
May	2,000 00		
Moffat	1,000 00	100 00	
Prisoners of War.....	4,000 00		
Fee	1,500 00		300 00
McGregor	2,015 00		100 00

McIlquham	500 00		72 50
Watson	10,000 00		2,000 00
Laird	950 00		5 50
McTavish	500 00		50 00
Boak		25 00	
Day	500 00		25 00
Ross		900 00	
Milton Hersey	10,000 00		500 00
Shortt	1,000 00		50 00
Arts '15	660 00		62 00
Western			50 00
Curtis	1,410 02		9 70
Richardson	3,000 00		208 00
McRae	3,000 00		84 25
Bruce Income			143 38
Sydenham High School	500 00		23 10
Simcoe Old Boys	190 00		2 90
	136,998 94	1,626 00	13,626 33

BONDS AND DEBENTURES

Held by Bank of Montreal, Toronto.

Canadian Northern Railway ..... due 1943		$ 86,000 00
1942		114,000 00
		$200,000 00

Held by Toronto General Trusts Corporation.

City of Belleville	1942	50,000 00
Canadian National Railway	1954	50,000 00
Canadian Northern—Deb. Stock	....	48,666 00
Dom. of Canada War Loan	1934	200,000 00
Dom. Iron & Steel	1929	5,000 00
Dom. Iron & Steel, 60 shares pref	....	6,000 00
City of Hamilton, various	....	33,000 00
City of Hamilton	1940	8,000 00
City of Kingston	1926	4,000 00
County of Lincoln	1942	50,000 00
City of London	1941	12,000 00
City of Niagara Falls, various	....	50,518 58
Province of Ontario	1942	50,000 00
Province of Ontario	1943	125,000 00
Province of Ontario	1930	130,000 00
City of Toronto, various	....	151,000 00
Do.	1936	50,000 00
Do.	1942	3,000 00
Do.	1945	4,000 00
Do.	1948	6,000 00
Do.	1946	2,000 00
Do.	1945	2,000 00
Do.	1937–1942	31,000 00
Do.	1937	2,000 00
Windsor	1926-1927	30,000 00

Do.	1925-1927....	5,000 00	
Do.	1937-1939....	50,000 00	
Township of York	1942-1946....	49,427 91	
A. E. Ames, Call Loan secured by Dom. Govt. Bonds for $12,000		11,000 00	
Dom. Foundries Steel Stock, 25 shares		62,500 00	
			1,281,112 49

Held in Registrar's Office.

Bank of Toronto Stock, 4 shares	400 00	
Toronto Mortgage Co., 23 shares	1,150 00	
		1,550 00
Par Value		1,482,662 49
Book Value as per Balance Sheet		1,346,308 47

BALANCE SHEET—MARCH 31, 1924

ASSETS

Investments—Productive :		
Bonds, Debentures and Stock at Book Value		1,346,308 47
Do. Special Annuities Fund		75,000 00
Mortgages and Real Estate		746,669 78
Investments—Non-productive :		
Land, Buildings and Equipment		341,110 65
Heating Plant advances		66,194 05
New Library Building (constructed to date: see schedule D)		243,847 06
Sundry Assets :		
Loans to Students	522 67	
Department of Marine and Fisheries	500 00	
Lorado Taft Lectures	606 49	
Arts Research Overpayment	10 00	
Women's Residence—advanced to date	8,281 63	
Bank of Montreal	11,236 96	
Memorial Hall advance	75 00	
		21,232 75
		$2,840,362 76

LIABILITIES

General Endowment		$1,760,148 94
Trust Funds :		
Annuities Bond Reserve	$ 75,000 00	
General Hospital	171,452 30	
Library Building, Schedule D	238,336 49	
" Govt. Grant, Schedule D	158,967 40	
Alma Mater Reserve	454 42	
1909 Foundation	1,145 30	
1910 Arts	2 88	
1912 Arts	226 40	
Khaki University Schedule C	2,509 68	
Loan Fund	87 77	
Research Council	976 56	
Levana Society for Red Room	22 00	

Scholarship Funds :			
Capital	$137,235 71		
Income at Credit... $13,482 95			
Less overdrafts.... 1,719 39			
	11,763 56		
		148,999 27	
			798,181 47
Current Liabilities :			
Avonmore Residence		55 25	
Arts Society Fees		3 00	
Accounts Payable		33,655 52	
Bills Payable (reserved)		6,526 28	
Bonus		10,000 00	
Students—paid in advance		236 49	
W. B. Westlake—Salary balance		330 00	
Pensions		384 69	
Strathcona Memorial		650 00	
Football Trophies		300 00	
			52,141 23
Reserves :			
For Deposits—Laboratory		15,836 33	
Locker Rents		656 03	
Banking Fees		20,000 00	
Mackintosh Report		500 00	
Contingent Loss on Securities		20,000 00	
Library Deposits		1,050 75	
			58,048 11
Net Capital :			
Balance March 31, 1923		171,344 76	
Add 1922 Adjustments		396 58	
		171,741 34	
Add surplus for year		106 67	
			171,848 01
			$2,840,362 76

W. E. McNEILL, Treasurer.

Audited and found correct.

R. EASTON BURNS,
Chartered Accountant.